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TRANSACTIONS & STUDIES
of
The College of Physicians of Philadelphia

Volume 37
(Fourth Series)

Number 1
(July 1969)

Population Avalanche

The Mary Scott Newbold Symposium*

Chairman

FRANCIS C. WOOD, M.D., *President, The College of Physicians of Philadelphia*

Moderator

LUIGI MASTROIANNI, JR., M.D., *Chairman, Department of Obstetrics and Gynecology, School of Medicine, University of Pennsylvania*

Participants

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ALAN F. GUTTMACHER, M.D., *President, Planned Parenthood World Population, New York, New York*

BENJAMIN VIEL, M.D., *Professor of Preventive Medicine, University of Chile, Santiago, Chile*

(*Dr. Wood*) I should like to welcome you all this morning to the symposium, given under the auspices of the Mary Scott Newbold Fund, on what we call the "Population Avalanche."

Years ago, in the 1780's and 1790's, this College of Physicians was the only group of physicians in Philadelphia interested in the public health and the public welfare. Along came the AMA, the county societies, and the boards of health, and this College more or less abdicated in favor of those groups. A few years ago we decided that the human race was messing up the world and that we as physicians and citizens didn't know quite as much as we should know about these problems, so we started a series of symposia. This is our fourth. Possibly it should have been the first, because, if we didn't have a population avalanche, we wouldn't have air pollution, water pollution and all that sort of thing.

We have assembled today a group of people who know what they're talking about in this field. I shall now introduce the moderator of this panel, Dr. Luigi Mastroianni, Chairman of the Department

* Mary Scott Newbold Lecture XL, The College of Physicians of Philadelphia, 1 March 1969, presented as a symposium.

of Obstetrics and Gynecology of the University of Pennsylvania School of Medicine who has been very much interested in this area and who has assembled this panel for us.

(*Dr. Mastroianni*) I don't suppose it's necessary to emphasize the great importance of the subject under consideration today; the great increase in the world population has become a fact. It's a fact with which we are now living, and the effects of the increasing population are felt in every facet of our society.

Of course, as an obstetrician and gynecologist, I look upon this as something more than a demographic problem, and I suppose I've been conditioned to consider the importance of family planning in terms of the lives of my individual patients.

One of our panelists, Dr. Berelson, has referred in past writings to "effective personal freedom," and actually part of our task in academic obstetrics and gynecology is to develop methods which will make it possible for each woman in the world to exercise "effective personal freedom." The problem is a broad one and the expertise which will be brought to it by the members our distinguished panel ranges in discipline.

First, we have Dr. Bernard Berelson. Dr. Berelson's background has been varied. Along the way, he was a Dean of the School of Library Science at the University of Chicago and subsequently he found himself in the broad field of sociology. He was a Professor of Sociology at the University of Chicago and later a Professor of Sociology at Columbia University. About a year and a half ago, he was appointed President of the Population Council in New York City. The Population Council, as many of you know, is an organization whose efforts are devoted to a study of population problems throughout the world.

Next, we have Dr. Benjamin Viel. Dr. Viel's field is preventive medicine, and he is a Professor of Preventive Medicine and the Chairman of the Department at the University of Chile.

For many years, Dr. Viel has worked in the field of public health or, if you will, preventive medicine. The main thrust of his activities has been in maternal and child welfare. Naturally, the field of family planning is one which has close association with maternal and child health. Dr. Viel has had considerable exposure to the United States, having studied at both Harvard and Johns Hopkins. His work in the field of population control has been recognized as pioneering, especially as it relates to the problem in Latin America.

We also have Dr. Alan Guttmacher. Dr. Guttmacher is an obstetrician and gynecologist, I am proud to say, and he is Professor Emeritus at Columbia University in obstetrics and gynecology and former Chief at Mount Sinai Hospital in New York. Presently, Dr. Guttmacher is President of Planned Parenthood World Population. He has done much to bring the population avalanche to the attention of the American public and to the world.

We will ask each of the panelists to make an introductory statement. We will start with Professor Viel who will address himself to the problem as it relates to Latin America.

Can the Demographic Explosion be Stopped in Latin America?

(*Dr. Viel*) The Latin American continent cannot be considered as a homogeneous unit. In its vast territory, we find all kinds of climates, a wide variety of cultures and different traditions, as well as a racial mixture, which ranges from the European immigrant, who has maintained the purity of the white stock in Argentina and Uruguay, to the pre-Columbian native, who has not yet been mixed in some areas of Mexico, Guatemala, Ecuador and Brazil. Between both extremes there are racial mixtures of white, Mongolian and black, each giving

its own characteristic to countries and regions.

The tremendous cultural efforts of Spain and Portugal left, as inheritance, a common religion, the Roman Catholic, and two languages, Portuguese in Brazil and Spanish in the territory south of the Rio Grande, with the exception of Haiti and of British and Dutch posessions in the Caribbean.

During the Spanish domination and even during the last decades of the 20th Century, the predominant production in all Latin America was agriculture and the only sources of energy were men's muscles and domestic animals. In such conditions, the existence of a generalized pre-natality policy was quite logical. Immense territories available for cultivation and the lack of labor were sufficient justifications for the landowners to encourage birth by all means, even forgetting the religious teachings that advocated the formation of a family under the norms of a responsible parenthood.

The Independence War, long and cruel in many places of America, was followed by a period of anarchy perhaps longer and more cruel than the war against Spain; both added to our continent a new tradition, heroic patriotism. A breed of men willing to die for their countries, but rarely in disposition to work for their betterment, continued with weapons in their hands in a succession of revolutions and guerrilla wars. They devastated fields and cattle, impoverished areas which before were productive, and in their wandering as warriors did not have time to establish families. The children born of different women and in distant lands learned early to admire the man able to impregnate the female, but not to love her, as well as the man brave enough to die in battle, but unable to adjust himself to the routine of a daily work.

For those who were not born landlords, only the priesthood and the military career could change the course of their lives. The Independence War did not damage the power of the Catholic Church, but incorporated into our cultural heritage a pronounced militarism, for whose consequences we are still paying today.

With the process of industrialization, changes have taken place, mainly in the areas in which this process has been possible and successful, as it has been in the South Cone of the continent, Mexico, and the South of Brazil. But the great majority of our countries are still living in an agricultural-commercial economy.

Where there is an industrial development, there is a peasant migration to the city. The percentage of urban population increases and becomes a relatively good indicator of the degree of industrial development reached.

If, instead of dividing Latin America into geographic or climatic areas, we divide it according to the percentage of the population living in urban settings, it is possible to have a more realistic idea about the most characteristic facts associated with the present demographic condition. Using the basic data given by the study of Puffer and Griffith (1), we have selected some countries and grouped them according to the percentage of population that in 1960 was classified as urban, and we have compared these data with the percentage of the population that in the same year was located in cities of over 100,000 inhabitants. When both percentages were high for a given country, we classified it as an urbanized society with all the proper characteristics of an industrial system of production. When both percentages were low, we considered the country as rural and consequently as having the type of organization proper to an agricultural-commercial economy. Between both types of countries remains a group that could be considered as intermediate, that is to say, in the first stage of industrialization and facing the problems of such a period, but with the

only difference that these countries the mortality rate is relatively low, or at least lower than the one Europe had in the same stage. The difference we are mentioning is not the consequence of an ecological equilibrium, but the result of the knowledge we have now to fight the infectious diseases.

Classifying 16 countries with the indicated criteria, we have only Argentina and Uruguay in the urbanized area. Seven countries appear in the intermediate area: Brazil, Colombia, Chile, Mexico, Panama, Peru and Venezuela. In the rural area are included the following seven countries: Costa Rica, Guatemala, Ecuador, Honduras, Nicaragua, Salvador and Paraguay.

The lack of statistical information is the reason we could not classify the Caribbean countries, but the knowledge we have about them makes us think that with the exception of Cuba, all of them could be included in the rural area.

In each of these three areas, we have considered (Figure 1) the mortality per thousand inhabitants, the percentage of dead children under 5 years of age over the total number of deaths, the birth rate, the ratio between the number of children enrolled in the schools and the total school age population, and finally, the expected population in the year 2000 if the observed conditions for 1960 do not change considerably.

There is no demographic problem in the urbanized area. Its present low birth rate allows one to predict an increase to 44 million inhabitants for the year 2000, which is still a smaller number of people than Argentina and Uruguay are able to feed from their vast prairies and with their immense natural resources. In contrast, the intermediate area more than duplicates its population, and the rural area triplicates its population in the same 40 years. If the health and educational indicators show a serious situation, the most simple analysis has to conclude that with such rate of population growth, the situation could get worse at the beginning of the coming century. Therefore, a vast area of our continent is bound to suffer a similar or worse tragedy than India is facing today, unless rational measures are taken now to avoid the catastrophe.

It would be naive to think that the

SOME DEMOGRAPHIC FEATURES IN A GROUP OF LATIN AMERICAN COUNTRIES IN 1960

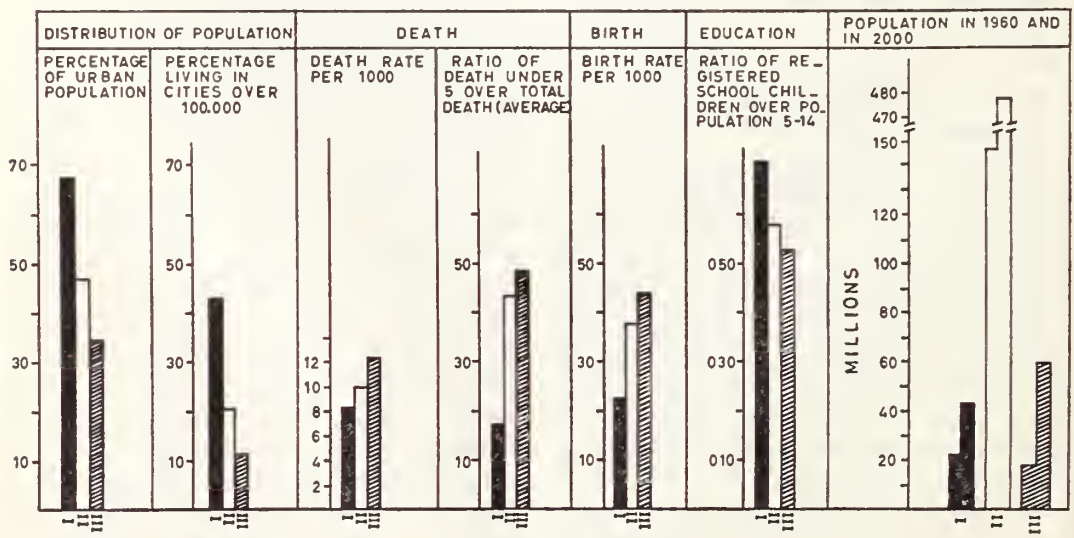

FIG.

present conditions in Argentina and Uruguay are the consequence of the high percentage of urban population. Such percentage has been achieved through a century of increasing industrialization. The European inmigrants, who left Europe with a concept of responsible parenthood, established their families in the Argentine prairie, but, after working in the rural areas, abandoned them, attracted by the industrial inducements or by the displacement produced by the progressive mechanization of agricultural activity. In the city, they passed through a transition period, characterized by high birth rate and low mortality, but subsequently they passed through a period of decreased birth rate, and, as in Europe, this occurred without the use of efficient contraceptives, without a proper contraceptive education and even before anybody spoke about demographic explosion. This was the logical consequence of the difficulties of urban life, which were increased by the progressive decrease of mortality of a human group whose ancestors had for a long time a concept of responsible parenthood. It was this concept that produced the miracle before a solution was suggested by medical doctors, demographers or sociologists.

What we are observing today in the intermediate area of our classification does not necessarily indicate that a similar phenomenon is occurring. The death rate has decreased in a short period of time; the mechanization of farming together with industrial growth have encouraged peasant migration, but nothing indicates so far a spontaneous decrease of birth rate, and, where such decrease exists, it can be explained by the presence of a middle class acting in the same way that the European inmigrants of Argentina acted at the beginning of the century.

Because of the fact that the newcomer to the city usually is a man still attached to rural traditions, who does not associate the decrease of mortality with the importance of birth control, we can observe among the marginal populations of our cities something similar to what happens in rural areas, i.e., the large family and high fertility. Only in some isolated areas and in certain countries is the practice of illegal abortion common.

The frequency of induced abortion is a phenomenon which is being studied with increasing interest. It could be stated that in 1960 such a method was the only way of birth control in Latin America. Since all countries have a young population distribution and the tendency to allow early sexual relations, it is easy to believe that the birth rate would be higher and no less than 50 per thousand. While no better indicators are found, a possible way to determine the frequency of illegal abortions lies in comparing the recorded birth rate of each country with the theoretical birth rate of 50 per thousand, which we figured as expressing spontaneous fertility. The difference between the two rates indicates the approximate frequency of illegal abortion, as it is shown in Table I.

When the woman cannot resort to abortion, multiparity is the rule. If such multiparity coincides with economic insufficiency, one observes a kind of involuntary "infanticide," whose data, taken from a study done in Chile by Faundez (2), can be appraised in Figure 2.

It is evident that the present infant mortality, especially high among those born after the family has already 3 or 4 children, could be related to the poverty that the increase in size is producing; but 30 years of experience in medicine has convinced us that the unconscious desire of the mother to see her child die is also an important contributing factor. The later born are taken to the doctor only when they are seriously ill, and very often the instructions given by the doctor are not properly observed.

A vast area of Latin America is victim of the demographic explosion. In some

TABLE I

Country	Birth Rate in 1960	Difference from Theoretical Birth Rate	% of Urban Population
Uruguay	22.3	−27.7	68.0
Argentina	22.5	−27.5	66.4
Brazil	33.0	−17.0	40.4
Chile	33.0	−17.0	66.2
Perú	38.2	−11.8	47.1
Venezuela	42.8	−7.2	63.7
Colombia	44.6	−5.4	50.6
Mexico	44.7	−5.3	50.7
Honduras	44.2	−2.8	22.5
Salvador	48.5	−1.5	38.5
Costa Rica	49.2	−0.8	34.5

areas, induced abortion appears as a method of birth control, but in those areas in which the demographic growth is greatest, induced abortion is not commonly practiced. This situation, plus the high infant mortality rate, associated with uncontrolled natality, gives rise to the following questions: Is Latin America approaching the end of the transitional period? Is Latin America ready to start a spontaneous decrease of natality? In the rest of our continent, will the same phenomenon occur that has been changing the demographic situation in Argentina and Uruguay since the beginning of this century?

The facts seem to indicate that the answers to these questions are negative, at least in the short run. Since men were victims for centuries of pre-natalistic teachings advocated by the landlords for economic and political interests, supported by religious norms and justified by the socio-economic conditions of the epoch, and since these men have not yet shared the concept of responsible parenthood, we cannot expect that they will forget their ancestors in a short period of time and behave as the European group transplanted to Argentina did.

For our native population, such understanding cannot be sudden, and, if it has to arise spontaneously, maybe time will not allow a wait for such spontaneous decrease in numbers. Probably before we observe a decrease in birth rate, we shall see an increase of our death rate due to hunger, which already is manifesting its fatal results in some areas of the continent.

If everything seems to indicate that Latin America is in need of a policy of birth control in order to solve its present demographic problem, and if there are no precedents to anticipate a spontaneous evolution as a result of a cultural change in our population, then the only solution is to promote a population policy which includes and encourages birth control. This is not an easy task, since there are a good number of opposing factors.

From the social aspect, it seems necessary to insist on the negative influence of an ancestor formed in centuries by a pro-natalistic policy and accentuated by the so called "Machismo," which in our judgment is the consequence of the Independence War and guerrilla wars that characterized the anarchy period which followed. Such "Machismo" does not have too much importance, except in the rural area, because it tends to disappear rapidly under the influence of education in industrial environments.

The social factor that seems to have the

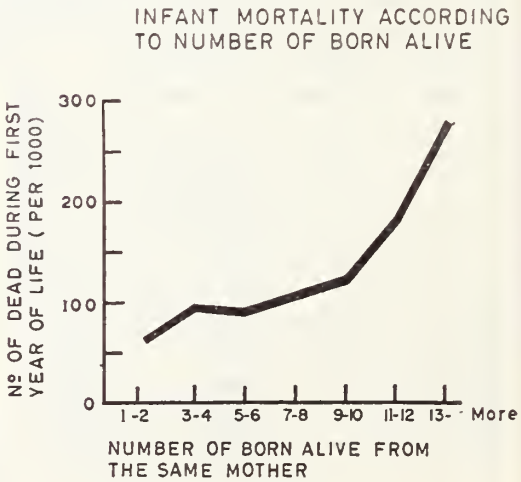

FIG. 2.

greater influence in our environment is poverty, which provokes a collective frustration. In such a condition, there is no hope for progress, no family organization, no desire for more education; in brief, there is no faith in the future. This is the precise situation where a policy of birth control must be joined with a policy of economic development as two parallel elements that have to go together. Birth control will achieve poor results if it is not accompanied by an efficient economic development. Such economic development will not be successful if there is an uncontrolled population growth. As a Chilean politician put it, economic development and family planning are the two airplane wings that Latin America requires for the take-off from underdevelopment.

The Catholic religion is another factor of great importance nowadays. Until recently we were convinced that the discussion with the Catholic Church was only a matter of methods, since its continuous and profound teaching of the norm of responsible parenthood gave rise to a principle of agreement and the possibility of a common understanding. The comprehensible attitude and sometimes the cooperation of many priests contributed to our optimism. The encyclical, "Humanae Vitae," issued in 1968, which put an end to four years of discussion in the Church itself, defeated our optimism. The Catholic Church decided itself against birth control, unless practiced by a method which medical science has proved as inefficient.

The encyclical, "Humanae Vitae," has a curious peculiarity. In spite of its universal meaning, it seems to have been written exclusively for Latin America. Obviously, it will not have any influence in Asia, Africa or Oceania. Also, it is quite evident that it will not increase the present low birth rate of Europe and Anglo-Saxon America. Its influence will be felt only in Latin America.

The way in which the policy imposed by Pope Paul VI will exert influence in our continent deserves a careful analysis. Our experience indicates that the Latin America woman's individual behavior will be affected little or nothing at all. In Chile, for example, after and before the publication of the "Humanae Vitae" encyclical, 80% of those women requesting contraceptive devices declared themselves to be Catholic. The true influence of the encyclical is being felt in the governments, as well as in the extreme left revolutionary movements, since these have a subject for debate.

The encyclical frightens governments elected by popular will and does not let them act, since the official church and the conservative parties are opposed to any birth control action. If the government happens to be in the hands of military, the pro-natalistic policy of the encyclical coincides completely with the ideas supported by Latin American militarism, which thinks of the woman as a soldier-producing machine and victory in war as achieved by number. Undoubtedly, our militarists forget the two last Israel-Arab wars.

With respect to the extreme left, the impact of the encyclical is even more interesting to observe. The groups influenced by Marx in Latin America, or at least the ones calling themselves Marxists, have held the view that Marx and Malthus are two antagonistic thinkers. They maintain that the demographic problem does not exist, but only a problem of distribution of wealth; for them, birth control is an invention of American capitalism to keep Latin America subjugated; they have stated that the growth of our population is the only solution to achieve a change in the worn-out capitalistic structures. Paul VI on pronouncing himself an opponent of birth control by artificial means, is in favor of a pro-natalistic policy, which makes possible the dialogue between the

Church and the Latin American Marxist groups.

This *sui generis* and extremely homemade interpretation of Marx contradicts Urlanis (3), doctor in economic sciences of the Soviet Union, who stated in the Congress held in Sydney in 1967 that "the idea widely divulged in the world literature that Marxism is against birth control is false. Such an idea is denied in many opinions written by Marx, Engels and Lenin, and because of this fact birth control is widely practiced in the Soviet Union." The same author adds, "The countries of the Third World must have a favorable policy towards family planning and the small size family system; otherwise, they will face unemployment, which means more consumption than production and therefore a diminishing chance to improve the level of living." If such is the official word of a Russian Marxist authority, why does Latin American Marxism hold just the opposite? We cannot find any explanation other than a strategy to take over power. The uncontrolled increase of our population will bring about (as the Soviet economist stated so well) unemployment and a deterioration in the standard of living, and these factors will be the best allies of a revolution directed toward destroying capitalistic structures.

We have adverse factors even in the medical sciences themselves. The methods for artificial birth control we know today, although they are better than twenty years ago, are still far from perfect; consequently, their deficiencies invite scientific research to produce improvement, which could make possible the use of 100% reliable and efficient methods.

Experience with hormonal contraceptives taken orally in Latin American is only favorable among groups of a high cultural level and duly motivated. Among groups where poverty and illiteracy are predominant, the percentage of failure per 100 year-women of observation has reached 32% (4). We do not have information concerning the use of injectables.

Our own experience (Figure 3) with intrauterine devices, the most advisable method for Latin American communities, shows a relatively greater efficiency among younger women.

The influence of parity can be seen in Figure 4, a study of 8,170 women observed up to 36 months from the time of insertion of the Lippes loop. From such a study it can be concluded that greater efficiency of the IUD is obtained in the woman older than 30 years and who has had more deliveries. The protection we can offer to women aged 20 to 30 years is relatively less, and certainly for the nulliparous younger than 20 years of age the efficiency must be even smaller.

Those who advocate the legalization of induced abortion find the best argument in the relative efficiency of our present birth control methods; the legal induced abortion is undoubtedly an efficient resort to lessen the harm done by the abortion performed by unskilled hands and useful as a method of birth control. Although its cost is high, it should be accepted until we can dispense more efficient contraceptives than the ones being used at present.

We who are working in birth control have against us social factors represented mainly by the heritage of a pro-natalistic policy practiced by our native population for five centuries. We have against us the frustration and defeatism which results from poverty without hope. We have against us the militarism, which inspires the governmental policies of a good many countries. We have against us the official opinion of the Vatican hierarchy, which introduces fear in many governments. We have against us the Marxist left, which changes its doctrine hoping that the conditions produced by the demographic explosion will lead them to power. Finally, we have methods of fertility control with relative inefficiency and the legal prohibi-

tion to practice abortion, except when the mother's life is in danger.

If Latin America is looked upon as a whole, what has been done up to now can be characterized by two conditions: too little and too late.

In the presence of such a situation, can it be expected that vast regions of Latin America will be saved from the same disaster affecting India nowadays? I am still optimistic, and my answer is yes, it can. It is true that we have adverse factors which are almost insuperable, but based on the experience of four years of work in Chile, as well as on the observation of what other countries have done, we must recognize that we have a factor in our favor. This is the demand for contraceptive services by the Latin American woman when she has the opportunity to know about such methods. The woman, the most responsible being of our society, constitutes our support and our faith in victory; her response justifies our struggle. Whenever a well-directed educational program offers contraceptive services, acceptability exceeds possibility of service.

PERCENTAGE OF WOMEN IN USE OF LIPPES IUD AT THE BEGINING OF EACH PERIOD OF OBSERVATION UP TO THE END OF 36 MONTHS ACCORDING TO AGE AT TIME OF INSERTIONS.

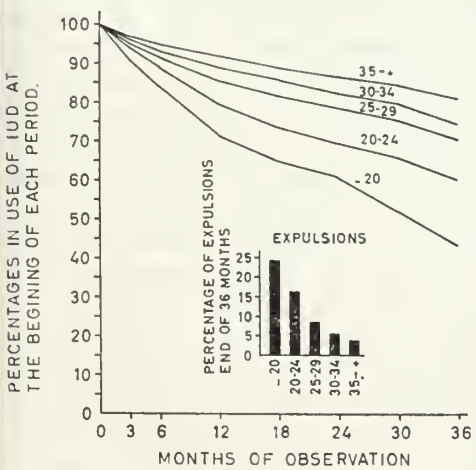

Fig. 3.

PERCENTAGE OF WOMEN 20 29 YEARS OLD IN USE OF LIPPES IUD AT THE BEGINING OF EACH PERIOD OF OBSERVATION UP TO THE END OF 36 MONTHS ACCORDING TO PARITY.

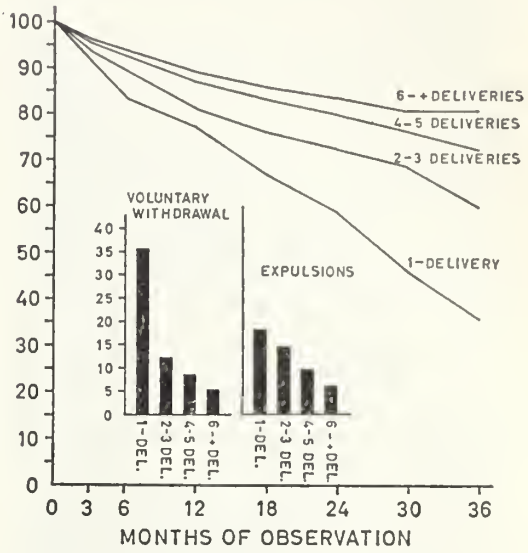

Fig. 4.

In Chile, a permissive governmental policy has functioned within the structure of the National Health Service. Today, family planning is part of the mother-child care services, and the experience we are having induces us to state that the woman is receptive to education and advising whenever the doctor offers contraceptives and especially when she knows that doctors are also willing to take care of her newborn child. Integrated health actions will be able to bring down natality to a compatible level with our production; if such policy is generalized and intensified, then Latin America could normalize its family and live under the western social norm of responsible parenthood.

What we are stating can be evidenced by the results we have obtained in the western district of Santiago, which has an approximate population of 130,000 women in fertile age. During the first four years of family planning program, 36,000 women have accepted the use of contraceptives.

This has meant that illegal abortion has decreased to 70% of the figure registered for 1964; the birth rate, which in 1964 was 37.4, has decreased to 28 per thousand, still too high, but significantly lower than what it was.

Finally, I wish to say that if the struggle against a high birth rate does not go along with an effective economic development, the victory that could be obtained would be ephemeral, the frustration produced by poverty could easily destroy responsible parenthood, and the family would revert to uncontrolled population growth and its vicious circle of hunger and death. The developed countries have, at present, historical responsibility. It is impossible for Latin America to stand alone against demographic explosion and to achieve its economic development.

We are personally involved in this struggle, but, as we analyze the situation more, we understand better what that politician said: Latin America's take-off toward development can be done with two wings—family planning and economic development. But under the present circumstances it is too late to think of having our own wings; these have to be borrowed. If this does not happen, those who are living in developed countries will observe the hunger of those who did not get necessary help, given in time to adapt themselves to a world different from the one in which only muscle was able to produce energy and in which only death freed them from an excessive population.

(*Dr. Mastroianni*) Thank you, Dr. Viel. Dr. Viel has reviewed some of the economic and social forces which influence population growth in Latin America and he has brought to us the sad fact that in the Communist world and in Latin America, family planning is not generally accepted for reasons which are difficult to understand.

He has also indicated that in Latin America generally, the hierarchy of the Church has not joined hands with the hierarchy of the churches in Austria, France, England, Canada, Belgium, The Netherlands and in one or two states in the United States where the conscience is looked upon as the court of last resort in this matter.

Finally, he has pointed out that at this point in time we do have methods with which we could make considerable impact on population growth in Latin America. His own beautiful study with the intrauterine device is one example of this.

We will now ask Dr. Alan Guttmacher to review the status of the population avalanche in the United States.

The Population Avalanche in the United States

(*Dr. Guttmacher*) President Wood, Mr. Chairman, it's a great privilege to talk in this institution that has such a rich history and to stand in front of the portrait of Benjamin Rush.

Dr. Viel gave us an excellent picture of the situation in Latin America and I only hope that I will be equally adequate to present the situation as I see it in our own country.

I would like to remind the physicians present that the first doctor in America to become interested in the matter of family planning was a rather strange and perhaps brilliant man named Charles Knowlton, who was born in 1800 and died in 1849. He was graduated from the Dartmouth Medical School. I say he is strange because, among other things, when he was studying anatomy, he wanted to have his own cadaver; he exhumed a friend and gave him part of the bedroom which he occupied during the month of January. He shared his quarters with the dissected specimen. Finally, the situation was discovered by the police and Knowlton was put in jail for two months for illegal dissection. I think you will grant he was no follower of rules.

He became very much interested in obstetrics and in his part of New England developed an extensive obstetrical practice. During the course of this practice, he realized that a great deal of hardship accrued from unwanted pregnancy.

He found America very ignorant about contraception and therefore in 1832 wrote a 75-page brochure called, "The Fruits of Philosophy," or "The Good Companion of the Married Couple." The book was written anonymously but apparently it was discovered later than Knowlton had been its author. He was rewarded by a $50 fine in Tottenham and three months in jail in Cambridge, Massachusetts, at hard labor.

The book was modern in its contents in that he brought forth the urgent need for family planning and tried to answer the objections of those who would oppose its use. He raised the point as to whether or not increased knowledge of family planning would be likely to increase promiscuity and came to the conclusion that it would not.

The method of family planning which he advocated in the book was the postcoital douche which he apparently had found in Aetios written some 1200 years before. He added a local note to its application. Since he was writing for a New England populus where indoor plumbing was apparently not the rule, he advocated not only that alum be put in the douche but some spirits be added as well to prevent it from freezing. He was a practical man in addition to being a crusader.

Knowlton was the earliest American physician to become concerned with contraception, but other luminaries stand out.

I always like to remind physician audiences that the great Dr. Abraham Jacobi in 1912 made the matter of family planning an important paragraph in his inaugural address as President of the American Medical Association.

There were local physicians all over the United States who were interested in birth control and the birth control movement. You had Dr. Dewees in your own community, and at a later date Stuart Mudd, Joseph Stokes and others, but as a whole until relatively recently, the medical profession has been very resistant to involve themselves in the matter of family planning.

I have tried to think why the medical profession should have been resistant and I'm not sure I know all the answers; however, I should like to suggest several.

One is that in medicine we are immediately and repeatedly taught the importance of preserving life. It is probably the main tenet of our creed and therefore the doctor may have had some difficulty in making the intellectual synapse between saving and preventing life. He didn't realize that by preventing life, perhaps he was saving life as well.

In the second place, we had been taught the fact that the doctor should not do anything about which he is uncertain.

The Latin phrase, *non nocere,* do no harm, was emblazoned on the walls of the Lying-In Hospital in Chicago, facing the stool upon which the obstetrician sat when he was to do a forceps. From time immemorial the medical attitude has been that if there is doubt, don't do it.

In other words, in medicine, a sin of omission is not as great a sin as a sin of unwise commission.

In the third place, the doctor did not want to enter the area of controversy particularly when there were such great religious overtones as there were decades ago about the problem of birth control. The doctor who worked in the early Planned Parenthood clinics was even refused a staff position in Catholic hospitals; it was that strong a prohibition.

Fourth, in the main, the doctor in America has not been a leader in social change and progress. We have been among those who follow rather than those who lead.

Finally, perhaps the doctor took it for

granted that because he knew birth control his patients were equally conversant with it.

At all events, it is quite clear that the American birth control movement does not stem from medicine. It stems from early twentieth century feminism. Margaret Sanger, who actually established the American movement and made of it such a vital and viable thing, was not primarily interested in it because of birth control but simply as an important vehicle to raise the status of woman, to try to emancipate her from sexual servitude under which she served at that time.

The American birth control movement has a great deal to thank Mrs. Sanger for; had it not been for her brave obstinancy and extraordinary talent, the movement certainly would not be where it is today.

It is probably unnecessary to mention to so intelligent an audience that Mrs. Sanger opened the first birth control clinic in the United States on October 16, 1916, in Brownsville, a slum area of Brooklyn.

As you may recall, in the first week she could not recruit a physician to staff the clinic because it was so hot a topic that physicians were afraid to traffic with a medical activity of such uncertain virtue. So during the first week, Mrs. Sanger and her sister took the history of 464 potential patients who came to the clinic to seek birth control advice. Mrs. Sanger took the histories so that, when she was able to recruit a physician, there would be less time lost in giving birth control service. You probably know that ten days later a policewoman disguised as a patient came in, had her history taken, bought a small pamphlet, "Family Limitation," which Mrs. Sanger had written on birth control, and, after she had stuck it in her handbag, blew her whistle and the cops came in and Mrs. Sanger, her sister and the records promptly went out. Mrs. Sanger and her sister went to jail and the records made a great bonfire at the intersection of two important Brooklyn streets.

Since then, the American medical profession has become deeply involved in birth control. Physicians like Dr. Robert Latou Dickinson, one of our eminent medical leaders, and others had great influence on this. My own revered chief, Dr. J. Whitridge Williams at the Johns Hopkins, was not unimportant in having the medical profession accept birth control as part of normal medical care.

I remember in Baltimore, where I was a resident, when we established the first birth control clinic. It was established by four great professors of the Johns Hopkins, but it was considered unwise to establish it within the precincts of the hospital, and therefore the first birth control clinic was five blocks away from the hospital at 1029 North Broadway. Thus, in 1927 the corridors of the great and sacred Johns Hopkins remained uncontaminated by birth control. The same men ran the birth control clinic, but not under the same roof. After two years, seeing that nothing extraordinary happened, in 1929, we opened a birth control clinic within the confines of the Hopkins Hospital.

The fact that many, many U.S. hospitals have birth control clinics is a relatively new development, for contraceptive service was very slowly accepted by American hospitals. They had no feeling of responsibility either to their patients or to the education of their staffs. This retarded the progress of birth control in this country tremendously.

What is today's American scene? There has been a tremendous development of the Planned Parenthood movement in this country so that currently there are 164 cities with affiliates of Planned Parenthood World Population. Thirty-two are what we call educational affiliates. These do not operate clinics but stimulate and intellectualize the community about family planning and cooperate extensively with setting up birth control facilities in existing hos-

pitals and health departments. In the other 132 cities, we operate some 480 clinics and see about 350,000 women in the course of a year, 275,000 of whom are poor or near poor and within the group called medically dependent.

Today, unlike yesteryear, there are other organizations furnishing birth control to needy patients. Health departments in the United States have taken up the cause and each year more counties and more states are involving their own health departments in the service of family planning.

It is estimated that in the year ending June 30, 1968, the last date for which we have an estimate, 350,000 indigent women were given contraceptive care by U.S. Health Departments and another 250,000 by hospital clinics.

It is felt, and this is a rough estimate, that approximately 875,000 medically indigent women are getting birth control advice either through planned parenthood or through the health department or hospital of their areas.

No doubt, private physicians give birth control advice to many indigent patients, some on Medicaid plans and other reimbursement schemes. The volume is very difficult to estimate, but just to make our figures come out neatly, we will say 125,000 patients in 1967 received such service from the physician.

If that is correct then, one million medically indigent women in this country are receiving birth control through public sources, with the private physician receiving some type of public reimbursement.

Is one million the number that need such service? It is not thought to be. According to census data for 1967, there were 7.9 million women of the medically dependent group of reproductive age in this country. It was assumed by some other statistical maneuver that 2.6 million were either pregnant or seeking pregnancy, which left 5.3 million women of the medically dependent group of reproductive age who are not seeking pregnancy or pregnant. This then would mean that of one million served, we would have a deficit of 4.3 million women yet in this country who remain unprovided for.

These figures are estimates made by the Health Statistics Bureau of the U.S. Government under Dr. Arthur Campbell and by my own group. They are very rough and may not be accurate, but nevertheless, they point out that in America there still is a large reservoir of medically indigent women who are not yet receiving modern, effective contraception.

It does not mean these women are not using any contraception, because we are a nation of contraceptors. As Dr. Berelson pointed out at our breakfast meeting this morning, probably some 90% of fertile Americans not seeking pregnancy use some attempt to limit their fecundity, but certainly there is a great difference in the effectiveness of the methods used by those who are of the affluent, educated group and those methods used by the uninstructed and less affluent group. Therefore, our task is not necessarily to persuade the women yet unserved to use birth control, but to use better birth control.

There have been many studies on desired U.S. family size; according to the studies, it has been shown that the poor and near poor desire slightly smaller families than those in the non-poor group. These figures show a desired family size of about 2.9 children by the near poor and the poor and 3.3 children by the non-poor group. If such figures are reasonably accurate and I assume they probably are and we were able to give the poor the same effective birth control which is available to the affluent, we would see a decrease in their family size, and probably equality between the family size of the affluent members of our community and of the poor and near-poor members.

Currently there is quite a difference in the fertility rate between the two groups.

I am quoting figures collected between 1960 and 1965. In that period, the poor and near poor had a fertility rate of 153, which means number of viable pregnancies per thousand women of fertile age, 15 to 45, while the non-poor had a fertility rate of 98. There is then a gap of 55 points between the fertility rate of the two groups, the poor and the middle class.

Dr. Arthur Campbell has published data on the estimated number of unwanted children born in this country each year. Families were surveyed to find our whether or not the last child was a wanted child. An astonishing figure was found, even with the child crawling around the mother's apron strings. Over 25% of last children born in this country when the survey was made were unwanted children.

On this basis, Dr. Campbell estimates that of four million births, which was the average in the 1960–65 period, 850,000 were unwanted, that is, 23%.

There was a difference between those in the non-poor status and those in the poor and near-poor group. Forty per cent of the last children born to the poor and near poor are unwanted, while only 14% of those born to the non-poor group are unwanted.

All this leads me to conclude that we cannot become complacent and say since Americans are a nation of contraceptors we have no fertility problem. We obviously have a problem. We have a great problem with vast unmet needs. The question is how best to serve these needs.

It is obvious that there must be complete cooperation between all birth control facilities. In this community, you have many interested groups. You have the Planned Parenthood group. You have the Better Family Planning group. You have many hospitals with clinics. You even have Catholic hospitals, I believe, with rhythm clinics.

I understand there is also beginning involvement of the Health Department. What we need to do in all America is to try to mobilize the full potential. At the national office in New York, under grants from the Kellogg, Rockefeller, and Ford Foundations as well as several other lesser foundations, there has been established the Center for Family Planning Program Development. This group of professionals will take city after city and try to analyze the birth control facilities now operating within the particular community.

We are working currently in Dallas and have worked in Los Angeles. I don't know which is the next city selected for such intensive analysis. It may be your own. An attempt is made to assess how much of the birth control need is being met in the particular community and to find out what the existing facilities are to meet the need. The attempt is made to stimulate existing facilities to liquidate the unmet need rather than to open up new Family Planning clinics under Planned Parenthood auspices.

The goal is to have every hospital conduct a vigorous, vital, productive clinic, not a clinic that simply makes obeisance to the fact that it is doing a little family planning work, but a clinic which is vital, interested and organized for the specific purpose, a clinic which meets not only on Thursday afternoon but at night or on Saturday morning or Saturday afternoon if the need exists. It is essential that we stimulate existing facilities in the whole health field, that is, Health Departments and hospitals, to do the task and do it with real spirit.

To meet the unmet need in some communities, we will still have to open new birth control clinics operated by Planned Parenthood. This is regrettable. Recently I was in Lansing, Michigan, which is the home of a huge university, Michigan State. Perhaps it is known best for its football team although it is an excellent school.

They have 40,000 students, 23,000 men and 17,000 girls. The only family planning

service given in that community is given by the Health Department, which in fact has just started. They see about 500 patients per year and because of political considerations cannot take unmarried coeds. The University feels no responsibility toward the unmarried coed and her birth control problem. Lansing is a very conservative medical community. In addition, the doctors are very busy. I talked to some of the obstetricians and they made it quite clear that they would not welcome an invasion of coeds in their offices. Here then is a large segment of the population unserved by existing medical facilities and is not likely to be. It may very well be that we will have to open a Planned Parenthood clinic in this community largely to serve unwed college students.

They certainly deserve the service and need it badly. I see no point in discriminating against the middle class simply because we are intent on serving the poor.

If there is an unmet need among the middle class, it must be served in some way. In the area of birth control, we must be realistic and try to supply the need wherever the need exists.

There are many portents to make us realize that from the point of view of conception control all is not well in America. I need not remind you that we shall have 300,000 illegitimate children born this year.

The illegitimacy rate is up to 8.7%. This is not excessively accurate because a lot of births that are illegitimate are registered as legitimate, so that the rate of 8.7 is a minimum figure. Then, too, one-sixth of brides are pregnant when married in this country.

If we consider all children illegitimate who are born less than nine months after marriage, it would increase the illegitimacy rate to about 25%, taking the 8.7 and the 16% and adding them. By this definition any pregnancy leading to birth initiated outside of marriage is illegitimate. Perhaps this should be termed the social illegitimacy rate in contrast to the legal illegitimacy rate.

There are an estimated one million illegal abortions done in this country each year. This figure is a gross estimate; it may be greater, it may be less, but it's a vast number. I think on these two indices, illegitimacy and illegal abortion, we are forced to admit that we are not doing too good a job with birth control either among the poor or the rich.

The facts proving reproductive chaos present a challenge to all of us. Each of you is interested in family planning or you would not be here. This presents a challenge to each of you individually, to think this through and see how these multiple problems can best be met: the problem of illegitimacy, the problem of forced marriages, the problem of teenage divorces, and the fact that illegal and legal abortion are both highly discriminatory. All of this socio-medical pathology must be put into proper focus; it exists and can not be swept under the rug.

In addition, we must take full cognizance of the fact that our work among some militant minority groups, is considered genocidal. They charge that what we are doing is not really trying to give a better family life to the less privileged segments of the community but trying to retard the numerical growth of ethnic minorities.

This was first brought to my attention five or six years ago when I was lecturing at the University of California. For the first time in a long life I was picketed, and this fascinated me. I was picketed by a group called EROS, so I went down and chatted with the pickets who were very intelligent-looking black men. EROS means Endeavor to Raise Our Size. The group said that there had been no Catholic president until there were 40 million Catholics in America and since there were then only 21 million Negroes they had to double their numbers as rapidly as pos-

sible. They protested the work of PPWP as a form of genocide.

You know full well that the program of family planning is purely voluntary. Coercion is and must continue to be left out of it wholly, totally and completely.

Let me cite a recent episode. Three young women were brought before Judge Perry Bowen in Prince George County in Maryland because between the three they had had eight illegitimate children. Judge Bowen decreed that unless they practiced family planning, he was going to take their children away. This was the edict from the bench.

This is hardly the best way to introduce family planning into America. You do not discriminate against people and single them out because they happen to be poor and unfortunate enough to have illegitimate children and make them practice family planning by an order from the bench. We defended these young women by presenting an amicus curae brief. In the Court of Appeals the defense was upheld by a six to one decision. If proof is needed that our philosophy is neither coercive nor genocidal, this case ought to prove it.

In America, birth control should be accepted by the individual because she or he thinks that it is important and right for their family pattern.

It is time that we come to grips with two methods of family planning which we have a tendency to skip over in this country. One is abortion. I doubt that any of you is satisfied with the archaic, punitive, medieval law which now exists in your state and in mine which permits abortion to be done only to preserve the life of the mother.

Almost all realize that liberalization of the abortion law is absolutely essential to permit the practice of good, honest medicine, not hypocritical medicine, but honest medicine.

The question is how extensively should we liberalize the law. Some people say we should have abortion on demand. I am sure that your children, certainly your grandchildren, will live in an America where there is abortion on demand.

But I think currently lay America is not ready for it; I am not sure the medical profession is ready for it, nor do I think I am ready for it. I am ready for it in the distant forty years, but I'm not ready for it in the current situation. However, I am totally dissatisfied with the American Law Institute statute because it allows abortion only to preserve life or health, when there is likelihood of a child being born malformed or retarded, or evidence of sex crime, rape or incest.

The states that have put the A.L.I. statute into operation have found that it has done little to increase the incidence of legal abortion. In Colorado, the legal abortions done before the bill was put into operation were 51 per annum and after the bill had been in operation for one year there were 407.

We find that in California the legal abortions before the bill was put in operation were 500, and after the bill has been in operation for a year, about 6,000. It is estimated that there are 80,000 illegal abortions in California annually. Subtracting 6,000 from 80,000, leaves still a huge surplus of illegal abortions, 74,000. Who is the surplus? A lot of the surplus are unmarried children, children less than 16 years old.

I cannot believe that it contributes to the welfare of the child or the community to compel a child of less than 16 to bear an illegitimate child or seek the services of an illegal abortonist.

To me, either choice is insane and I see no justice in it. It stems from punitive, puritanical reaction which has no basis in logic. Furthermore, a lot of the people who patronize the illegal abortionist are women who have had four or five children. I contend that any woman who has borne four children should certainly be in the

ideal position to determine whether a fifth child will be an asset to that home.

Is a doctor, judge, or social worker in a better position to decide that a fifth child will be an asset to the home than the mother who has already borne four?

I could go on and spell out how Pennsylvania should liberalize its abortion law, but unfortunately you will end up no doubt getting a bad law like they have gotten in Colorado, North Carolina, Georgia and California.

The only state that has passed a humane law is my native state, Maryland. Maryland has removed abortion from the penal code and put it under the Medical Practice Act. Since the passage of the new statute, two of Baltimore's hospitals with courage, the Johns Hopkins and the Sinai, are doing a relatively large number of legal, justified abortions.

Furthermore, I think we fail to use sterilization correctly. The incorrect use of sterilization is what many of the legislatures of the Southeast are attempting to do, to make sterilization mandatory after a woman has had two illegitimate children.

Wherever I go in the South, I find such a law is before the legislature, and it takes a lot of fighting to keep such a harsh, discriminatory law from being passed.

Sterilization should always be, as far as I can see, a purely voluntary procedure sought with enthusiasm by the patient.

We need to change the attitude of the medical profession toward sterilization. I was in Jacksonville, Florida, yesterday and I heard sterilization discussed. In Jacksonville, doctors are even afraid to sterilize a woman after she has had six living children. Why, I ask? Well, it's the rules of the hospital. Well, how do you change the rules of the hospital? Well, the staff makes the rules of the hospital. How do you make the staff understand that three or four living children would present a radical indication for voluntary sterilization?

Well, we'll have to have a campaign to do it. What has to be done is to gird up the loins of some doctors who'll take the ball, carry it and score the goals.

I hope I've given you some insight into what's good and what's bad about the American birth control scene. I would like to point out one fact: the birth rate is doing something very interesting. It has come down very sharply, so that it has fallen from 25.5 per 1000 in 1957 to 17.6, the estimated rate for 1968. We have had a downward birth rate curve in America for a long time; Dr. Berelson says for 150 years.

And the curve is still going down. Currently it is the lowest birth rate we have had in our history. It probably is not all due to modern birth control because during the depression years, when we did not have the IUD or Pill, our birth rate went as low as 18, but I think that the modern contraceptive method has contributed to the current decline. The birth rate is lower for two reasons. Despite the fact that the marriage rate has gone up, the birth rate has gone down; the number of first births has gone down. Americans are postponing the first child and also having fewer more than 4-child families. These two factors are bringing the birth rate down, at least temporarily.

Are these people postponing their children and going to begin to go into production soon? I have a feeling they will; then the birth rate is likely to go up again.

(*Dr. Mastroianni*) Thank you, Dr. Guttmacher. Dr. Guttmacher has put the birth control movement in the United States in its historical perspective and has brought us up to date on some of the issues in modern American society. He has properly emphasized the importance of personal freedom of choice in this matter, and, finally, has touched on abortion and sterilization, two issues which deserve careful consideration.

We have asked our third panelist, Dr.

Bernard Berelson, to discuss the population avalanche as reflected in world terms.

Population Problems in the Developing World

(*Dr. Berelson*) Anyone who gives even cursory attention to public affairs these days cannot fail to know that there is a population problem in the developing countries. The so-called "population explosion" featured in dramatic headlines is high on the list of topics most often viewed with alarm. What exactly is the nature of the population problem? What are its origins and what are its consequences? What is being done about it? And what does it have to do with the medical community?

Let me begin by speaking to a number of popular misconceptions on this matter.

Misconception No. 1 is that human numbers themselves are overwhelming us. However, the enemy is not a number but a rate. According to the latest United Nations figures, the population of the world is now growing at the rate of about 2% a year. That rate may seem to be small, but the fact is that the world's population has never before grown at such a pace for any extended period of time, and the consequences can be severe. This is literally a unique situation in human history.

The population of the world is now about 3.5 billion, and we are adding over 65 million people every year (about the populations of England, The Netherlands, and Switzerland combined), or approximately 1.25 million people a week. At 2% a year, a number doubles in about thirty-five years, so at the turn of the century the population of the world will be 7 billion if the present growth rate continues. It took all of human history up to about 1850 to produce a world population of 1 billion; it took only seventy-five years for the second billion, and thirty-five years for the third. At the present rate it is taking only about fifteen years for the fourth billion, and it will take only ten years for the fifth. These are striking figures. What they indicate is that the world cannot sustain such a growth rate for very long. Over the long run, as a recent report by the National Academy of Sciences put it, "either the birth rate of the world must come down or the death rate must go back up."

Misconception No. 2, signalized perhaps in the very term "population explosion," is that the current unprecedented growth rate is caused by an increased birth rate. The opposite is the fact: it is caused by a decline in the death rate, a decline that has accelerated greatly since the end of World War II, particularly in the developing countries. The decline is due to improved food production and distribution, more effective social organization, and particularly, thanks to the medical community, to the mass application since World War II of modern public health measures such as vaccines, antibiotics, sulfa drugs, and the new insecticides. In other words, the world death rate has been reduced largely because death control has been successfully exported from the developed to the developing countries. As a result, the rate of population growth is now much higher in the developing world, that is, in that two thirds of the world (Africa, Asia, and Latin America) where the birth rate is over twice that of the United States or Western Europe. If all the countries of the world were listed in order of their birth rates and a line drawn at 30 per thousand per year, the differentiation between the developed and the developing countries is virtually complete.

Hence, the burden of population growth falls where it can least be accommodated, and the politically dangerous differentials between the have and the have-not nations are thus sharpened by the most basic of life processes. It is no exaggeration to say

that there are two kinds of countries in the world today: those with a high standard of living and low fertility and those with a low standard of living and high fertility.

Those misconceptions have to do with the nature and the cause of the problem. The next two have to do with the consequences.

Misconception No. 3 is that population density is at the heart of the matter, or, in the popular phrase, that soon there will not be standing room on the earth. Given present birth rates, at some point in the distant future, of course, there will be no more room, assuming by that time man's ingenuity has not found a way of extending the finite limits of this globe. At present, density does raise health questions as well as esthetic considerations, but under most conditions density is not closely related to the problems of population expansion as is illustrated, for example, by the relative prosperity of crowded Hong Kong or for that matter of the large cities in the United States. In this regard, it is salutary for Americans to remember that the most densely populated areas in the world today include not only Japan, Java, East Pakistan, and The Netherlands, but also the eastern seaboard of the United States from Boston to Washington.

Misconception No. 4 is a more serious matter: that we will not be able to feed the population anticipated for the next few decades. The experts differ on this subject. Some predict that the world will soon be in real trouble on this score, but others believe that we shall just be able to get by. At best, it appears that the race between people and food will be a close one. Modern improvements in technology, not only in agriculture but also in communications and transportation, perhaps will enable us to feed the projected increase in world population—not to feed them well but at least to keep large numbers from starving to death as in the not-so-distant past. Large-scale famines, like large-scale epidemics, are now more amenable to control. People will not get a healthy diet, here and there some will die of malnutrition, and many major countries may have to depend on imported food. But more people will survive.

That brings me by way of summary to Misconception No. 5, the underlying one: that the population problem is a matter of quantities. Quite the contrary, it is a matter of human quality—of people with a decent chance at good health and nutrition, at literacy and popular education, at good housing and rewarding occupations, at individual opportunity and fulfillment. At bottom the problem is to keep the quantity of human life from diminishing the quality of human life throughout the world. What *kind* of population do we want, not how many: that is the real question.

Thus the basic issue is very broad indeed. It has to do with the entire social and economic development of the poorer countries. Such countries are now seeking to transform their traditional agrarian subsistence societies and become twentieth century nations. At best that is not an easy task, but it is made all the more difficult, perhaps prohibitively difficult, when it must be done with the additional burden of a heavy population growth. If the population grows at the rate of 2.5 or 3% a year, it takes the same rate of economic growth simply to stay even. In the developing countries a very large part of the product is consumed daily in the struggle for immediate survival, and such countries are hard put to raise the national capital for the factories, roads, fertilizer plants, irrigation networks and machinery that will yield a better life tomorrow. This is where the population pressure rubs.

There are two other factors that are seldom appreciated as being important in the total situation. First, by virtue of the high birth rates, large proportions of the popu-

lation in developing countries are children. This situation requires that the countries invest substantial amounts in such social services as education and health. In many countries more than 40% of the population is under fifteen years of age, whereas this figure is more like 25% in the developed nations. Thus, developing countries have not only a large overall growth rate to contend with but a large proportion of dependent youth as well.

The second factor is the "effective personal freedom" of couples throughout the world to determine the number of children they will have and when they will have them, in accordance with their own religious beliefs and personal preferences. Today, married couples do have that freedom in law or in principle, but because of ignorance and poverty and because proper information and services and supplies are lacking, the poor people throughout the world are not effectively free in this respect. Ideally, the Indian villager should have the same effective right to control family size as the Main Line resident; yet since this right is so much taken for granted by us, we tend not to recognize how vital it can be to others.

So over the next years, the populations of the developing countries will surely grow. There is hardly a realistic alternative. The 500 million population of India and the 100 million of Pakistan and Indonesia, for example, will almost certainly double. The question is whether these countries can have sixty years in which to do so instead of twenty-five. Short of major catastrophe, no developing country will have fewer people than it has today. The question, then, is not whether there will be growth but rather whether the growth will be very fast or only moderately fast.

As a solution to these problems, emigration can be immediately ruled out. There are simply no facilities or funds for such mass movements as took place in Europe in the nineteenth and early twentieth centuries, no place for the far greater numbers involved to go, no political atmosphere for the forced migration that would be required, no time for such movement to take effect. Nor can we discontinue efforts to improve public health. Once death control is available, it will not willingly be relinquished. If anything, that side of the equation will continue to decline as more and better public health measures are applied. Nor can the nations involved afford to wait for the natural process of economic, educational and medical development to result in a lowered birth rate, as it has in the West. There simply is not time, considering the rapidity with which modern medicine and public health have reduced the death rates in the developing world. As noted earlier, population growth itself has now become a major obstacle to technological advance. The dilemma is poignantly real: population growth is so rapid as to prevent or retard the emergence of the very conditions that history shows to be capable of reducing growth rates through reducing birth rates.

The solution then is to reduce the birth rate, and to do it reasonably soon. Throughout most of man's history, a high birth rate was necessary for survival of the community because the death rate was so high. Today, a high birth rate is contraindicated wherever people are reaching for the benefits of modernization.

This state of affairs has increasingly been recognized by the governments of the developing world, and in recent years some 20 countries have established national programs to bring family planning to their people. In the developing world today, about 65% of the people live in countries with such favorable policies. The movement began in Asia and has made most headway there; as a result, approximately 80% of the developing population in Asia lives in countries that accept and encourage family planning as against only 20% in Africa (mainly in the northern

tier) and 15% in Latin America. Thus, attacks on the population problem have become a matter of governmental policy in developing countries in a remarkably short period of time. It is in fact difficult to think of another movement of such combined delicacy and magnitude that has made similar headway, and especially so when the apparent religious, political and cultural obstacles are taken into account.

It is generally believed that once a favorable policy toward birth control and family planning has been established, the successful implementation and operation of a program depends upon three factors: 1., interest on the part of the people, 2., a suitable and acceptable contraceptive technology, and 3., the organization to bring one to the other. Studies have shown that interest exists in surprisingly large measure, even in the rural areas. With the development of oral contraceptives and particularly of the new intrauterine devices, the technological position is far better than it was only a few years ago, though major improvements are still needed. What many of the programs still lack is the third ingredient: an effective, vigorous, skilled organization to administer and conduct the program. Among other things, the underdeveloped world is underdeveloped in efficient administration, medical and otherwise. The important thing is, however, that throughout the world, progress in this area is now being made—in countries on the great crescent from South Korea, Taiwan, Malaysia, Singapore, Ceylon, India, Pakistan, Iran, to Turkey; the northern tier of Africa from the United Arab Republic to Tunisia and Morocco; in Kenya; in several of the Caribbean islands; and in a modified form in Chile and Colombia. And just recently, in some relatively favorable situations such as in Taiwan, South Korea, Singapore and Hong Kong, family planning programs have probably brought down the birth rate.

I hope I have given you the impression that this is a rapidly moving field, for that is certainly the case. Almost all the developments in national family planning programs have occurred within the past five years or so. Even so, there are several qualified scholars who believe that what is being done will fall far short of the mark and that much greater measures must be taken if the problem is to be met.

If I do not miss my guess, we are in the foothills of a great world debate over the next years on population policy itself. It is already beginning in the United States, as some people contend that even this country cannot now afford a birth rate beyond replacement. The Planned Parenthood movement, historically based on the case for the *wanted* child, is itself now debating whether people should be discouraged on social grounds from having even the children they want. In some developing countries with relatively severe population pressures, proposals are under discussion with regard to the liberalization of induced abortion, incentive programs that would pay people for the initiation or effective practice of contraception or for periods of non-pregnancy or non-birth, tax and welfare benefits and liabilities that would work in an anti-natalist direction, shifts in social and economic institutions in order to raise the minimum age of marriage or promote female participation in the labor force or even shake up the family structure itself, and, finally, establishment of involuntary fertility control in one way or another. As you can readily see, there are great issues for mankind in the developing debate on population policy—political issues, economic issues, medical issues, ethical issues. In this arena as in others, what was taken for granted only a few short years ago is increasingly being called into question. In fact, it is something of an irony that at the very time that the United Nations, after much travail, finally declared that the right to

effective family planning is a basic human right, some people are arguing that the world cannot afford that right and that individual families must defer to the requirements of the society and the state.

These problems weigh heavily on all of us, but this is an area in which medical people have a particular responsibility.

First, the whole field of research on the physiology of reproduction, including research on efforts to intervene in that process, must be pursued more vigorously. Experience with national family planning programs in the past few years has made it clear that the contraceptive technology itself is of critical importance for the success of such programs. A difficult technology will not work well; an easy technology is needed. With the oral contraceptive and the intrauterine device, the situation is far better today than it was a few years ago; but we are not yet near a satisfactory position in this regard. We need more basic knowledge of human reproduction and more sophisticated applications to the practice of contraception.

Medical educators also have a training responsibility. In the United States, this responsibility extends not only to training the next generation of leadership for American medicine but also a large number of students from abroad who will become the medical leaders in their own countries. To be successful, family planning programs both here and abroad must rely upon the informed support and usually the active leadership of the medical community. Indeed, such programs cannot succeed, perhaps cannot even exist, in the absence of medical enthusiasm for them.

Given these circumstances, it would seem clear that medical education has a major responsibility in this regard—to provide the basic training that will acquaint doctors with the problem and enable them to play their proper role. I take it as given that doctors will think those things preeminently medical that appear in the medical school curriculum. Yet, to some of us in the field, it has sometimes seemed as though the medical profession was prepared to face almost anything except the consequences of its own success in cutting down death rates throughout the world.

When one moves from the individual doctor-patient level to a consideration of the far more complicated issues involved in the collective problem, it seems clear that the medical schools have definite service responsibilities in relation to family planning programs. For example, working on the plausible assumption that at the time of delivery women would be particularly receptive to the subject of family planning, the Population Council has organized the International Postpartum Family Planning Program, with 26 large delivery hospitals in 20 cities in 15 countries, including the three largest maternity hospitals in the world and the second largest in the United States, handling about 340,000 delivery and abortion cases each year. Within the U.S., we are now seeking to extend this postpartum concept to programs with the American poor. A number of medical schools have affiliated hospitals in or near the so-called poverty pockets of our great cities. What could be more natural than to implement a strong family planning and associated maternal and child health program for the urban poor through the facilities of our major medical schools? Finally, the Council is collaborating on a study with the new International Institute for the Study of Human Reproduction, under the distinguished leadership of Dr. Howard Taylor, to determine what it would take in funds, personnel, training and facilities to develop some forms of professionalized, institutionalized maternal care that would reach into the rural areas of the developing world and incorporate family planning along with prenatal and postpartum services.

But the overriding responsibility for medical people is to become informed and

stay informed on an issue with such comprehensive ramifications. Doctors are not only doctors; they are community leaders, both here and abroad. One does not need much sense of history to observe that the medical profession has been largely responsible for what is without question one of the greatest achievements of mankind—the elimination of illness and the prolongation of healthy life. Nor does one need much historical perspective to sense that these decades of the population problem have placed upon world medicine, and in a special way upon American medicine, the heavy responsibility of exerting leadership on the other side of the population equation. There is the challenge, and there too is the opportunity.

(*Dr. Mastroianni*) Dr. Berelson has provided us with a learned discussion with major attention focussed on the world problem. He has pointed out that although we have a variety of means which allow for family planning, the motivation of the individual is all important. Although he espouses the concept that there surely should be individual choice, he predicts that eventually we will come to some system where that individual choice can be pushed in the direction of fewer children in the individual family unit.

Questions

Dr. Guttmacher, you stated that you were in favor of personal free will as far as women desiring to allow pregnancies to go full term. And then shortly after that you opposed abortions on demand. On what basis do you object to them?

(*Dr. Guttmacher*) The American public is not ready for it. All the polls show that no more than 20% of the lay public is in favor of abortion on demand and that even less of the medical profession approves. Thus, in the United States, abortion on demand is ahead of our times. That means we cannot hope to get such a permissive statute. Therefore, pragmatically, I think we ought to be realistic. Let's get a good law, since you won't be able to get complete freedom of choice. So, let us be politicians and put before our legislatures a humane law which some day, not too distant, we can sell to them.

In Maryland, they've done a spectacular job. Actually, what they have done is to remove abortion from the penal code and put abortion under the Medical Practice Act. They have given doctors control. The doctors elected to put into operation the American Law Institute bill. The medical and chirurgical faculty of the State is allowing hospitals to interpret the A.L.I. law according to their own light, and therefore, a place like the Johns Hopkins is doing a splendid number of legal abortions.

But when you have the rules spelled out by legislators and they enforce the law as written and abortion is not taken out of the criminal code, it becomes a real deterrent to liberalization, as in California, Colorado, North Carolina and Georgia.

In summary, I say let's above all be realistic. I am for abortion on demand eventually when the American public and the medical profession are prepared for it. First, I would like to have effective contraception tremendously well ingrained so everyone will have access to it, irrespective of marital status or age, because I think it is far better from the physical and psychological points of view to prevent pregnancy than to terminate it.

Therefore, let us take the time to set the stage by having effective contraception and the introduction of sex education in the schools. In the meantime, let's not live under our current archaic laws; let's liberalize them. And when we get effective contraception and greater sexual responsibility, then have abortion on demand as a backup mechanism for failed or omitted contraception.

There seems to be a discrepancy between

the issue of contraception and abortion. If you espouse the concept of freedom of choice for contraception, why is abortion different?

(*Dr. Mastroianni*) I would like to ask Dr. Viel to comment further on this issue of contraception versus abortion and on the matter of induced abortion in South America.

(*Dr. Viel*) I can give you the thinking of my own country. We have the idea that 50,000 women are hospitalized because of complications due to illegal induced abortions. Out of them, five per thousand die.

I would be very glad to have abortion on demand. It will reduce the death rate of those young women, most of them young mothers, and will reduce the number of women hospitalized because of complications.

The problem is that we do not have enough doctors to perform abortions on demand, so if we would succeed in having the law of abortion on demand, we will have only one more law that, from the practical point of view with the number of doctors that we have, we would be entirely unable to keep.

That's why, like Dr. Guttmacher, I hope soon that we will have a contraceptive 100% effective, in order that abortion on demand would not be necessary.

(*Dr. Berelson*) I won't speak about the medical issues involved, but only about the ethical ones. If one holds to the principle of freedom with regard to family size and the timing of the birth of children, there are some people who feel that that freedom is already effectively intervened by laws proscribing against abortion. In fact, someone has recently described those laws as constituting compulsory pregnancy for women.

So if one holds strongly to the principle of freedom and does not make a case against abortion on grounds of medical safety, then it would seem that that ethical position ought to include whatever medical methods are available, both those of foresight and of hindsight.

Dr. Guttmacher, what was your response to the EROS group in California?

(*Dr. Guttmacher*) I told them that I thought that, if they spent their efforts on increasing the education of the black race, they would probably attain political importance far sooner than by sheer numbers.

Now, I'm not sure that's valid, but I think there is something in that. Perhaps I used a bad example, because I used the example of the Jew who in numbers is about half the number of the Negro and still has considerably more political power. This is due to his education and also to what education brings, financial competence.

What improvements in contraceptive technique can doctors anticipate in the immediate future?

(*Dr. Mastroianni*) A number of groups in the United States are working vigorously on the basic physiology of reproduction. The area which has greatest promise is not concerned with the events which occur at the level of the Fallopian tube. If we can understand the fertilization process, conceivably we'll be able to control it more effectively: if we can understand tubal transport mechanisms, with reference to both the spermatozoa and the ovum, perhaps we will find a means to influence those adversely and thus to prevent conception.

As has been pointed out, however, one of the major issues is not so much methodology, but rather some of the other areas which have been so well covered by our panelists. Dr. Guttmacher has indicated, for example, that the birth rate during the Depression in the United States was as low as it's ever been. And that was at

a time when we didn't have the Pill and we didn't have the IUD. So, it's more than a matter of methodology.

(*Dr. Berelson*) Of course, I would agree that it's more than matter of contraceptive technology. Motivation is very important in it. I've learned over the years, or I've tried to learn, never to talk about motivation without saying something about the technology involved at the same time because these things are so interwoven. A difficult technology can be utilized, but it takes a very great deal of motivation to do it well. But the easier the technology, the farther into the curve of motivation one can cut, and in the developing world, that's of very great importance, and it can mean a matter of decades and perhaps longer in reaching some "solution" of the problem.

At the Population Council, where we put a great deal of energy into scientific research for a better technology, we see very few realistic possibilities of a new major method in the next short period of years. We would be very agreeably surprised if something came along.

We have been working very hard the last few years on what we consider the likeliest threshold item, a low progestin substance. There is an oral version that is only a step toward what we're really after, an implant in which the same material is put into a silastic capsule which by needle can be put under the skin. The capsule is so arranged that it leaks the substance out at the proper rate over relatively long periods of time. We are still in the beginning of this effort, and if everything goes well, and we're lucky, we might see light at the other end in about two years. But I do not think there is anything of a dramatically new character that is closer than that.

Dr. Guttmacher, in the United States most of the legislators are men acting on a problem peculiar to women. Now, what effort is being made to encourage the male to use contraception?

(*Dr. Guttmacher*) Very little. You know the answer; that's why you asked the question. The point that you want to make is that we ought to try to coerce the male or persuade the male or seduce the male into a sense of greater responsibility in controlling conception.

And I agree with you. Vasectomy has been very difficult to obtain in most communities. For the first time in New York, the Margaret Sanger Research Bureau is starting a vasectomy clinic. They will do vasectomies, I think, on Friday morning or Friday afternoon—this is no advertisement—just as one does ordinary medical procedures in a clinic.

This is the first time I know of that vasectomy has been publicly being carried out like any other standard medical therapy. We hope that this will proliferate and that other family planning clinics throughout the country will include male sterilization as one of their in-patient services.

(*Dr. Mastroianni*) Dr. Viel, you mentioned the concept of "Machismo," and I wonder if you would comment on the attitude of the South American male toward a contraceptive technique for which he would have some responsibility.

(*Dr. Viel*) Vasectomy in Latin America is restricted to professional groups. I know only professional men who have requested it privately to doctors or clinics. In the common market, it's very unpopular because it is very difficult to point out to a semiliterate population the difference between vasectomy and castration.

(*Dr. Guttmacher*) I'd like to add that the Upjohn Company has a new compound with which they have shown considerable success in experimental animals that seems to affect the sperm cell within four or five days of administration, but I think it hasn't progressed beyond this

point. People certainly are experimenting, looking for a male pill. Obviously, if they're just beginning human work, it means that it's at least three or four years off. So I would say that a male pill may be possible, but it doesn't seem as though it's coming immediately. It would be a great contribution if we could have equality in this type of birth control, a female pill and a male pill.

(Dr. Wood) *A little while ago I read a statement that, if we were able right now to do something to keep our population at a very steady figure instead of having it increase, it would bring very catastrophic circumstances, such as having the entire population of the country pretty soon as old as I am. Has this sort of thing happened in Japan and Hungary, where they have succeeded in controlling population growth?*

(*Dr. Berelson*) If we in the United States were to go to replacement very quickly, our age structure would certainly be affected. As a demographer recently said, it wouldn't be very long before the age structure of the United States would approximate that of St. Petersburg, Florida. He further went on to say that he used to think that was a dreadful prospect, but with each passing year it had more attraction for him.

I think we have to balance off these values. We will have a much older population if we do go to a lower birth rate and to replacement. Would that mean a more conservative population? Well, by most accounts probably it would. In the demographic field, as in every other, you don't get something for nothing, and one of the things you'd have to pay for a stable population at replacement level, assuming you could get to it, would be a shift in the age structure with a large proportion of the population over 50 years old. Of course, these are continuous variables, and we could choose some growth, but not as much as we have.

What is your concept of the difference between the unborn and the born person?

(*Dr. Guttmacher*) That is a very personal judgment to make; it comes through one's mother's milk, religion and many other factors. The Catholic religion feels sincerely that it is murder to interfere with even the four-celled egg. Interference with conception at any point is murder to the Catholic.

I have a different point of view. I don't see how anyone can judge which is correct. It is a matter of philosophical attitude; it is nothing one can prove by either a computer or a test tube. My attitude is that the early ovum is a collection of undifferentiated cells. They then begin to differentiate; they then begin to potentiate into a human being. But I cannot believe that you can equate a foetus which simply has a potential for human life and has not lived independently of its mother with the killing of an individual who has been born and has had an independent life, and therefore, I do not feel that abortion at this stage is murder.

But I'm quite willing to say that I may be wrong and the Catholic point of view may be right. But I want them to say with equal sincerity that they may be wrong and I may be right, because I don't think either of us can tell who is right and who is wrong. This is a matter incapable of proof. It is simply a matter of one's ethos and the way one thinks, and, to me, people born on the earth have tremendous priority to people yet unborn.

(*Dr. Berelson*) This is of course a very central question, that is, the point at which you define life as beginning. If, for example, one is to define life as beginning with conception as against pregnancy—if by conception one means the fertilization of the ovum, and by pregnancy the im-

plantation of that ovum in the only environment in which it can live—this becomes an important philosophical or theological differentiation in practical terms for those who think that the IUD has its mode of action in the intervening days.

What strikes me as very interesting in Catholic theology is that Catholic doctrine does not take an absolute prohibition against the taking of human life—for example, just wars and defense against the unjust aggressor. But Catholic doctrine does come very close to having an absolute prohibition against the taking of unborn human life.

It's interesting to inquire into how that should be, because a priori I should have though it ought to go the other way.

Free will is not compromised by being subordinated to social need by some form of legislation. We see the effect of this in other fields where we demand that someone prove that he's able to drive before we issue him a driver's license, and we at least ask people to prove they're healthy before we issue them a marriage license. Can this not be a governmental requirement that a license be taken out to have a child, and that this license is non-renewable except by certain conditions, and can this be an effective means of birth control? Of course, I cannot say what would be the punishments for those who circumvent it, but these problems could be worked out. But I wonder if this could be a practical means of dealing with the problem in the future?

(*Dr. Mastroianni*) Dr. Berelson, will you comment on the matter of free will and on the idea that an individual should get some stamp of approval by some government agency indicating his competence to be a parent before being allowed to procreate?

(*Dr. Berelson*) There are two questions involved. One is, could this be done? I don't think that one can say that logically it could not be done. We do license for other things, and logically we could for this. I don't think we could politically today, or what I can see as the foreseeable future in this country. However, there would be great administrative problems involved if one were to do that, or try to do that.

The second question is whether one ought to try to do this in order "to solve America's population problem." I would be very strongly against this. I don't think that the problem today in this country calls for a solution so drastic. That violates my personal values about this enterprise, and I personally think that it's far better to try to solve such great human problems in which millions of people are involved through the process of information and education. Beyond that, I think that if you don't get an informed and educated public to understand the reasons for such a drastic measure, you couldn't operate on it anyway.

So that I am far more inclined to trust to informed judgment, informed not simply about the consequences for the individual family but about the consequences for the total community, and I'm prepared to take my chances with individual judgment because the alternatives seem to me to be far worse.

(*Dr. Guttmacher*) I agree with everything Dr. Berelson said. I would much rather have this amount of energy expended on trying to eliminate and obliterate our ghettoes and the underprivileged type of American life that 23% of our population leads.

We have seen the birth rate fall automatically with an increase in education. It's always interesting to me that the smallest family is achieved by the Negress or the black woman who has gone to college. I've forgotten the figure. It seems

to be she achieves 1.3 children; I believe that the smallest American family.

Well, this simply means that if you can raise the standard of living and raise the educational horizons of underprivileged Americans, we shall see birth rates come down extraordinarily, probably not much more than replacement levels.

I would like to make an all-out effort on making birth control available, but before it's going to be accepted extensively by a large segment of the population, we must improve their way of living. This is where the concentration of effort should primarily be made.

(*Dr. Mastroianni*) Our time is up. On behalf of the panel, I should like to thank Dr. Gordon French who was responsible for the organization of this facet of the activities of The College of Physicians of Philadelphia. I should also like to thank Dr. Wood, President of The College of Physicians. Finally, as chairman, I should like to thank the members of the panel who have brought to us their collective wisdom in such an extraordinary way.

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Life and Health Insurance Today: A Survey for the Practicing Physician*

Introductions

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(*Dr. Wood*) Ladies and gentlemen, we welcome you this morning to The College of Physicians, and we hope you will enjoy looking around this fine old building with its museum and paintings. We are glad to

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see you here. I shall now ask Dr. Simmons to proceed.

(*Dr. Simmons*) Thank you very much, Dr. Wood. It's a real pleasure to be able to greet you as Chairman of the Section on Public Health, Preventive and Industrial Medicine of The College of Physicians. This program, as you know, has been sponsored by the Section, by Philadelphia County Medical Society and by the Association of Life Insurance Medical Directors of America. The Philadelphia County Medical Society will be represented officially here this morning by its President, Dr. Theodore H. Mendell, the 108th Chief Executive of this organization.

(*Dr. Mendell*) Thank you, Dr. Simmons. I want to greet you officially and welcome you on behalf of Philadelphia County Medical Society and its 4,000 members.

This hall and this building represent part of Philadelphia and United States history. While talking about history, I might mention that the first life insurance company which was incorporated in North America was established in Philadelphia in the late 1700's.

Clinical medicine is very much indebted to life insurance medicine for its very valuable contribution in statistics. The practicing physician is a sort of partner to insurance because he looks after the physical health of the patient, and insurance looks after the economic health. You cannot separate either of them.

I am especially pleased to be here, Dr. Simmons, and I want to congratulate you on arranging this excellent symposium. Judging from my meager knowledge of life insurance, even after having practiced for thirty years and having completed hundreds of insurance forms, I am going to learn a great deal, and I think everybody else will. I want to thank you for inviting me.

(*Dr. Simmons*) Thank you very much, Dr. Mendell. I wish to bring to you also the greetings of Dr. Francis Mathewson, President of The Association of Life Insurance Medical Directors of America and Medical Director of the Great-West Life Assurance Company of Winnipeg, Manitoba, Canada. Dr. Mathewson regrets his inability to be with us this morning, but he noted that our program was well represented by past presidents of the Association, three of whom will officially be on the program this morning and another will substitute for one of our scheduled speakers who is not able to be with us. Three Past Presidents on the program are Drs. Robinson, Pepper and Larson. Dr. Whitman Reynolds, also a Past President, will substitute for Mr. Joseph C. Wilberding.

Our topic for this symposium—"Life and Health Insurance Today"—is a timely one on the local, national and international scenes. All of us are intimately involved, be we physicians or laymen.

A similar meeting, a "Congress on Medicine and Insurance," sponsored jointly by the American Medical Association and the Association of Life Insurance Medical Directors was held last June in San Francisco in conjunction with the annual meeting of the American Medical Association.

It is through such assemblages and discussions and via the printed word as the aftermath that we hope to foster better understanding of the problems we face as individuals, as communities and as a nation and, through this understanding, achieve cooperation and meaningful solutions.

To this end, we have assembled in this room today the finest talent on the subject available anywhere in the world.

Organized medicine, practicing physicians and doctors of medicine specializing in the field of insurance have gathered to tell us the nature of their work and the problems that we face mutually and to create the climate of understanding necessary to move forward.

The Stake of Private Medicine in Life and Health Insurance

(*Dr. Simmons*) Philadelphia medicine has been doubly favored this week, first by Dr. Dwight Wilbur, President of the American Medical Association, who spoke at Dr. Mendell's inaugural dinner, and today by the President-Elect of the American Medical Association.

Dr. Gerald D. Dorman was born in 1903 in Beirut, Lebanon, where his father was a Professor and Dean of the School of Medicine of the American University. He received his bachelor's degree from Harvard in 1925 and his medical degree from Columbia University in 1929. Following an internship in surgery at St. Luke's Hospital in New York City, he engaged in private practice as a surgeon from 1932 until he entered the Army as a Field Surgeon in 1942. Having been commissioned as a Captain, he rose to Lieutenant Colonel while on active duty and, in 1963, retired from command of the 307th General Hospital and the Army Reserve with the rank of Colonel.

From 1945 until June 1968, Dr. Dorman served successively as Assistant Medical Director, Medical Director, and as 2nd Vice President and Medical Consultant for the New York Life Insurance Company. He has served the American Medical Association as Chairman of its Committee on Workmen's Compensation, as Eastern Co-chairman of its Physicians Committee on Radio, Television and Motion Pictures, and as a member of its Medical Military Affairs, Insurance and Prepayment Plans and Health Care Financing committees.

Dr. Dorman is a Past President of the Medical Society of the County of New York and has held various high offices in his State Medical Society.

He was a Delegate to the American Medical Association from the Medical Society of the State of New York for six years before his election to the Board of Trustees in 1960 and continued in this capacity until he was named President-Elect of the American Medical Association in June 1968 by the unanimous vote of the American Medical Association House of Delegates.

Dr. Dorman will be installed as the American Medical Association's 124th President during the annual convention in New York in July of this year, and we are indeed pleased to have him here to speak to us on the subject, "The Stake of Private Medicine in Life and Health Insurance."

(*Dr. Dorman*) It's always a pleasure for me to come back to Philadelphia because, although you hear what a foreigner I am, having been born in the other end of the world in Beirut, Lebanon, my maternal grandfather's family whose name I bear with the middle "D" in my name—the Dales—of Philadelphia, were here before the Revolution, through the Revolution and for many a year thereafter. So I feel a sort of nostalgia in coming back to the Philadelphia area.

When I was invited to be with you on this occasion, the subject I was asked to discuss was "The Stake of Private Medicine in Life and Health Insurance."

It was a pleasure for me to accept the invitation on that basis because medicine and insurance are subjects with which I feel quite comfortable.

I have been a physician for a good many years, which qualifies me to see much of medicine's point of view. I also have spent a good many years as Medical Director for the New York Life Insurance Company, which makes it possible for me to see that industry's point of view.

It is not only important, it is virtually a necessity that medicine and the broad field of insurance and prepayment draw closer together in the months and years ahead. We have a community of interest that demands a close, mutually understanding relationship.

As a matter of fact, in these days of

constantly multiplying demands for medical and health care, I do not think it would be in error to consider members of the insurance industry and of the prepayment programs as actual parts of the health care team, since it is health insurance and prepayment that often make it possible for the ailing and the injured to receive the medical care they need.

Whatever else might be said about either the differences or the relationships between medicine and insurance, certainly both have ultimate goals that are identical. That unified goal is the well-being of the people they serve.

Primarily, the physician is concerned with the physical well-being of his patients. Primarily, insurance is concerned with the economic well-being of policyholders or members. But, as all of us know, there are many overlapping aspects of these concerns.

Insurance also is vitally interested in the physical health of its clients, just as physicians are equally concerned about the economic situation of their patients.

That latter point is particularly true in today's highly inflated economy, in which the cost of medical and health care has been rising steadily and apparently will continue to rise because of a great many factors that are outside of the control of either the medical profession or the insurance carriers.

It is, in fact, stated policy of the American Medical Association that physicians at all times should be aware of the economic factors of the services they provide and the services they order. That consideration is in addition to their awareness of the scientific aspects of those services.

In keeping with that policy, AMA President Dwight L. Wilbur, in his report to the House of Delegates last month at the Clinical Convention, cited eight ways we physicians can and must help hold down the cost of medical and health care.

I would like to repeat for you, briefly, those eight points, with some elaboration of my own here and there.

First, we can avoid hospitalizing any patient unless it is absolutely necessary.

Second, we can reduce the length of stay in the hospital to the absolute minimum consistent with good care.

Third, to help implement the first two, we can make more use of extended care facilities, nursing homes and home care services, as well as participating in the expansion of all of those effective and less expensive sources of care.

Fourth, we can stimulate prepayment mechanisms on a voluntary basis and encourage all insurance carriers to provide comprehensive coverage for out-of-hospital services, including those that are required both before and after hospitalization.

A possible option, offered by Dr. Wilbur for consideration, is the recent action of National Blue Shield. And you can see here that it is almost impossible to talk about health care without talking about insurance and prepayment.

National Blue Shield has called for all of its member plans to make available a "paid-in-full" program of services based on physicians' usual, customary and reasonable fees. The plan is to include charges made in the physician's office, for laboratory and radiological tests, for care in the home, for care in extended care and nursing home facilities, and for many other specified services.

I think this is an option that should be available.

Fifth, of the eight points, we can encourage our patients and their families to carry adequate health insurance or prepayment coverage.

Sixth, we can support the principle of income tax credits for health insurance. I shall have more to say about that subject later on.

Seventh, we can encourage wider use of reliable, automated laboratory procedures, passing the cost benefits on to patients.

Eighth and last of the president's points, we can maintain charges for physicians' services on the basis of usual, customary and reasonable fees, a concept that was defined by the House of Delegates last month, as you know.

Accompanying this must be effective self-discipline and peer review to consider the fee charged and the appropriateness of the service rendered.

If I may elaborate a little on that point, I should like to recall to your attention the AMA's "Guidelines for Establishing Medical Society Review Committees." The guidelines were first published in a 1965 issue of the Journal of the AMA and have been updated periodically since that time as amendments were made by the House of Delegates. The latest of those were recorded from the Annual Convention of last year.

I don't want to take your time to review in detail those fairly lengthy guidelines. But I would point out, as a reminder, that they include provisions:

... for broad representation of all fields of practice and medical specialties in the community;

... for prompt settlement of cases presented to avoid dissatisfaction and loss of confidence in the committee's value;

... for adequate publicity so that both the profession and the public know of the committee's function;

... for continuity of membership in the committee to assure consistency in decisions rendered in all cases, regardless of the source of the complaint or question;

... and finally, the guidelines call for consultation with representatives of health insurance and prepayment plans in order to achieve maximum results.

Among the ways to help reduce the cost of medical and health care to the patient, I mentioned the AMA's concept of income tax credits to help defray the cost of health insurance premiums.

That idea was accepted by the AMA House at its meeting in June of 1968. Last month the House not only reaffirmed its acceptance, but resolved to promote vigorously the enactment of federal legislation "that would translate into law the concept of income tax credits for health insurance premiums."

The report on that subject was from the AMA Board of Trustees' Committee on Health Care Financing. I have the privilege of serving that committee as chairman.

The committee report pointed out that adequate health care should be available to all who need it and that methods of financing health care must be found to help everyone get the care he needs.

Income tax credits for the premiums paid for adequate health insurance are an effective way to encourage maximum participation in voluntary, comprehensive health insurance programs.

People who don't earn enough to pay income tax, or who pay only a small amount, would be given vouchers for the purchase of health insurance.

Adequate programs would be available from insurance and prepayment carriers and people who buy them would be eligible for a tax credit for the premium paid.

For example, if a family owed $500 income tax, and the premium for adequate health insurance was $350, the tax payment could be $150 plus the receipt for the insurance premium.

As health care costs continue to rise, which we can be certain will happen, we who are in medicine and/or insurance must more clearly demonstrate the effectiveness of the private system of medical care and of the voluntary health insurance mechanism.

Otherwise, I think we can expect to see government moving more deeply into the health care field, sometimes using the increasing cost as a reason and sometimes motivated by the lack of availability of immediate care.

I hope that we can expect not only a

new climate, but a better climate, with a new administration and a new congress taking over this month. I think we can expect to see less of a continuing push for greater welfare programs just for the sake of welfare.

However, we cannot expect the present government—or any government this country might have in the future—to ignore problems that generate a great deal of public outcry. This congress and this administration, like any before them, will act in what they interpret to be the best interests of their constituents and the nation.

If they believe gaps exist in the provision of medical and health care to all citizens, or in the ability of vast numbers of people to afford the kind and amount of care they need, we can expect government action to fill those gaps. We can expect it, that is, if the private sectors of medicine and insurance are not clearly making progress in doing the job.

With respect to health insurance and prepayment coverage, we must work together to make them more effective, to make their coverage more widespread, to make their benefits more comprehensive and to make their protection available as economically as possible.

We must believe and, much more important, we must prove that government financing alone is not the answer to the provision of adequate, comprehensive health insurance for the people of this nation.

I would like to dispel one cloud that has drifted onto the horizon and led some people to take a pessimistic view of the future of voluntary health insurance and prepayment. These people say that the cause of voluntary coverage is lost since the government has already stepped in with Medicare, Medicaid and its many other programs. They say the government will one day take over completely the financing of health care and, consequently, the control of it.

I would like to point out that similar predictions of doom were heard from insurance companies back in 1936 and thereafter when social security was passed and went into effect.

At that time there were cries on all sides that there was no further need for private life insurance and certainly no need for retirement programs, since the government was going to provide everything people would need in their old age.

What actually happened? The truth turned out to be the exact opposite of the predictions. Life insurance has never enjoyed as much growth as it has in the years since 1936. The same is true for the growth of retirement insurance, company and union pension programs and all other private mechanisms for providing for one's old age and for the security of one's survivors.

The reason, as we look back, is fairly obvious. The establishment of the government's social security program did not make available every benefit everyone could want. It was a step.

But more importantly, it called nationwide attention to the need for preparing for retirement and putting aside something for the golden years. When people realized the need for future security, they did not try to do away with the government program. But they rushed to take advantage of private programs that would offer them even more.

I am optimistic enough and, I think, realistic enough to expect the same thing to happen to voluntary health insurance and prepayment, in spite of, or even because of, government health care programs.

Federal interest and Federal action in health have called attention to the need for good health care and for advance financing of health care as nothing else has been able to do.

And I believe we can count on the public to want more and better coverage for their medical and health expenditures.

All of us, and all of our colleagues, must work together to urge people to protect themselves and show them how to do it. We must help them understand that it is insurance that makes it possible economically to do what needs to be done medically.

We must realize, of course, that in this respect we are concerned primarily with those people whose economic status is above that of the indigent. For the unfortunate who live in poverty, medical and health care is available now and always has been available.

Just as those people are unable to pay for medical and health care, they also are unable to pay for adequate health insurance protection until a system comes along such as the AMA's proposed income tax credits.

But they will be cared for, under governmental or private programs, just as they always have been cared for by individual physicians.

The great appeal of insurance and prepayment is to people above that economic level who normally are self-sustaining but who do not have the resources to cover the expense of a major illness or accident. For these people, prepayment in any of its many voluntary forms can remove the financial deterrent to necessary medical and health care.

That same principle applies all the rest of the way up the economic ladder, through the whole great middle class and even into the wealthy group whose members find it well worth-while to provide themselves with adequate insurance coverage rather than using their considerable means to be self-insured.

Insurance makes it possible for the physician to provide or prescribe diagnostic and therapeutic care of the very best type and in whatever quantity is needed without putting an undue financial burden on the patient or his family.

That will become even more true when, at our urging and with our cooperation, the insurance industry moves forward to extend more protection by allowing payment for diagnostic examination or therapeutic treatment without confinement in a hospital, by paying for services in the outpatient department, in the physician's office or in the patient's home or an extended care facility.

Existing programs of insurance and prepayment too often make patients insist on going to the hospital because that is the only way they can get any financial reimbursement, even though perfectly good care could be provided in some other environment.

I hope, too, that before long the insurance industry and the prepayment plans will expand their coverage to include preventive medical care. That is a move which, in the long run, I sincerely believe would actually save money for the insured individual and for the carrier. It would avert the need for much more expensive therapeutic treatment after an illness develops that could have been overcome quickly if it had been caught early enough through routine, preventive examination.

As a final point, in this brief discussion of a very far-reaching subject, I would like to add that health insurance is by no means the only type that helps the physician and his patient.

Retirement insurance and disability insurance both provide a vitally important financial lift to many persons.

That is particularly true of disability coverage, which many persons are wise enough to purchase while they are healthy and working. For people who have not taken advantage of such protection, an enforced inability to work—especially for a breadwinner—can be a financial diaster as well as a physical and emotional problem.

The same is true, although to a lesser extent usually, for persons who should retire for the sake of their health at age 65 or younger. If his patient is adequately covered by insurance, the physician feels much more free to advise retirement when circumstances warrant it. He knows the patient can follow his advice and protect his health without becoming a financial burden on his family or even on society.

I think when we look at the field of medicine and the field of insurance and prepayment, it is clear to all of us that our mutual concerns, our existing cooperation and our need for further cooperation far out-weigh any minor differences there might be in our philosophies, outlook or personal interests.

Certainly medicine and the insurance industry are partners in both life and health. If an obvious illustration of that partnership is needed, we can find it in the more than 20 million dollars contributed to medical research through the Life Insurance Medical Research Fund.

And I see no lessening of that partnership, as long as both of us continue to fulfill our responsibilities, with physicians providing and directing health and medical care for the people of this nation and with the insurance industry helping to reimburse patients for the cost of the care they receive.

Working together, all of us can help prevent physical problems from becoming economic tragedies for millions of people and for our country as a whole.

(*Dr. Simmons*) Thank you very much, Dr. Dorman, for this illuminating and authoritative presentation of what is going on and for the many suggestions which you have offered for our benefit.

What's Going on in the Health Insurance Field?

(*Dr. Simmons*) Our next speaker this morning will be Dr. Paul I. Robinson. Dr. Robinson was born in Waltonville, Illinois, on September 15, 1904. He received his B.S. degree from Washington University of St. Louis in 1926 and was graduated in medicine from the Washington University School of Medicine in 1928. This was followed by training at the Army Medical School in 1929 and a succession of postgraduate courses too numerous to mention.

During the course of his military career, Dr. Robinson served as Commander of the Fitzsimmons Army Hospital from 1951 to 1954 and was Surgeon for the 8th Army in Korea in 1954 and 1955. He was subsequently Commander of the Letterman Army Hospital and later Executive Director of the Dependents' Medical Care Program from 1956 through 1958. He is the holder of the Distinguished Service Medal, Legion of Merit and Oak Leaf Cluster, the Philippine Medal of Merit and the Korean Taiguk Medal as well as an Alumni Citation from Washington University of St. Louis. Dr. Robinson retired from the United States Army with the rank of Major General.

He is a Fellow of the American College of Physicians, the American College of Preventive Medicine, the American Public Health Association and the New York Academy of Medicine. He is an Honorary Fellow of the American College of Hospital Administrators. In addition, he is a member of the New York State Hospital Review and Planning Council and is a consultant to the United States Department of Health, Education and Welfare on matters relating to physician participation in Medicare.

He has published numerous articles on personnel matters, hospital administration, health insurance and various aspects of the costs of medical care.

It is a privilege to have Dr. Robinson with us this morning to speak on the subject, "What's Going on in the Health Insurance Field?"

(*Dr. Robinson*) It is a great privilege to

be here to talk on this subject. I shall have to tell you that I believe that my talk is going to emphasize a number of things that Dr. Dorman has already said.

I'm sure that all of us in the insurance industry and all of us in the medical profession would like to know what is going to happen to health insurance. There are movements in several directions which may enable us to understand what is going on now and possibly to prophesy what the future holds in this field.

Senator Ribicoff is said to be developing a program for covering the uninsured segments of the population by use of subsidy from public funds.

The American Medical Association's Committee on Health Care Financing has proposed a program to provide coverage for the uninsured and to improve the adequacy of insurance coverage for the remainder of the population. This proposal would utilize income tax incentives and government subsidies.

Governor Rockefeller of New York has proposed to the Ribicoff Committee a program of compulsory health insurance with suitable subsidies. He had proposed a similar program a year ago. The same basic idea is also incorporated in a study entitled, "Problems in Medicaid" by the Advisory Commission on Intergovernmental Relations.

The United Auto Workers has proposed an all-inclusive compulsory health insurance program.

I. S. Falk of Yale University made a proposal for compulsory health insurance at a meeting of the American Public Health Association in November 1968.

Walter P. Reuther, President of the United Automobile Workers, announced at the 96th meeting of the American Public Health Association that a Committee for National Health Insurance has been formed, chaired by himself, vice-chaired by Dr. Michael E. DeBakey and having such other members of prominence as Mrs. Mary Lasker and Whitney M. Young, Jr. He announced that the Committee will launch an educational program and "draft legislation to accomplish the Committee's purposes and press for enactment by the Congress."

The position of the Nixon Administration concerning these matters is not now known, but we probably must concede that the pressures are sufficient to require serious consideration of health problems.

One cannot think in terms of health insurance without considering the increase in cost of medicine and hospital service over the past several years. Many efforts are being made to establish guidelines, if not standards, for medical care. Determinations of necessity for medical service, quality of medical service, length of hospital stay, reasons for repetitive medical visits, efficiency with which medical care is rendered, both in hospital and out, are representative of these efforts. Fiscal controls have been devised and are in use, such as physician fee schedules, hospital payment formulae, contractual arrangements between providers and insurers, prepaid group practice plans combining financing and rendering of medical care, deductibles, coinsurance, internal limitations of one type and another, to mention several. None has been successful, in the opinion of many, because they have shifted the burden of additional payments to patients or to charitable organizations. Frequently the excess cost has been absorbed by individual members of the profession. Currently the trend is toward payment of physicians in accord with their own usual and customary charge, if reasonable. Reasonable determinations are made in an ill-defined manner by payers, some using average fees in a locality, others comparison of fees with previous ones submitted by the same physician, and still others using the latter method, provided the fee falls within 90 percent of the average of all physicians' fees in the locality. The

physician's usual fee is determined by questionnaire survey or by actual study of fees submitted and on record in the payer's files.

The demand for medical care has been influenced by many factors. Good food, cleanliness and reduction in work stresses have gone hand in hand with vaccines, antibiotics, antihistamines, better anesthetics and improved surgical techniques in both increasing and decreasing the quantity of medical care desired by the people. While infectious and contagious diseases have reached a reasonable state of control, chronic degenerative conditions have come more and more to the forefront and now require a greater quantity of medical and technical skills than ever before, both in detection and treatment.

The goal of good health for all members of society is unquestionably in the public interest and can be supported by providers of health care, industry, labor, insurers and government. This statement is greatly oversimplified because of the enormous complexities inherent in getting all to work together in an organized program which will preserve free enterprise and yet provide quality health service for all the people. The situation is a mixture of personal and group attitudes toward life itself. The complexities not only involve procedures, practices and behaviors growing out of expanding knowledge of disease, mental illness and disability, but also economic and social problems relating to organizing and educating people to produce goods and services under a system of adequate compensation for their contributions. In order for all elements of our society to work together toward a common goal of good health for everybody, more understanding of all the problems must be available to all.

Transferring all the responsibility for the health of all the people to the Federal government does not seem to be a viable solution. The Federal government has for many years operated large medical care programs which from time to time have been found to be wanting, and changes have been accomplished by the free enterprise medical profession. On the other hand, government has developed a medical care organization consisting of prompt, always-available medical care, rapid transport to the type of medical facility required and specialty care of unquestioned stature, some counterpart of which is badly needed in our free enterprise system.

Those opposing the government's entry into the medical care field have been unyielding in a number of general policies, such as: 1., opposition to compulsion; 2., government subsidies; 3., use of general revenues and 4., extension of present governmental programs, such as Medicare and disability coverage. Yet no one opposes the premise that everyone is entitled to necessary health care regardless of the means of payment therefor.

While everyone must concede and recognize the tremendous developments which have been made in the last 25 years in private insurance as well as government programs of health care, it cannot be denied that gaps and inequities still exist. Because of the goal of good health for everyone (which is undisputed), there is no doubt that there will be in the next few years many meetings, congresses, committees and conventions in which solutions will be expounded. Many of the long-existent policies on all sides must be compromised or attenuated.

It would be impertinent of me to predict what will come about or how it might be accomplished, but certainly all the activities I have briefly reviewed would point to: 1., more complete benefits for those covered by health insurance and 2., extending the same benefits to the uninsured by some means which undoubtedly—in the early stages at least—must be under government subsidy.

The extension of benefits must be con-

structive. Those controls which have been shown to increase costs by forcing people into the hospital for diagnostic examinations and trivial care must be eliminated or modified. Many of the built-in limitations should be excluded. More health services—dental, drugs, psychiatric, rehabilitation and preventive services—are desired. It is my sincere belief that the people want such a system and that they will somehow find the means to pay for it. It is my hope and belief that people who work can be provided with almost complete health insurance coverage in the free enterprise system. It will require compromises and concessions as well as assurances on the part of providers of health care and health insurers to accomplish this. There will always be an uninsured group. Those who have permanent uncorrectable impairments probably will have to be cared for by government; others who have capabilities should be provided with rehabilitative training and medical care until they can be converted into productive individuals.

In a word, it would seem that health insurance will in time cover more and more of the population and will provide greater and greater benefits, that there will be a great struggle during the next few years to delineate what can remain in the free enterprise system and what must be provided by government, that the providers of health care and the financiers will revise some of their staid policies and practices to meet the needs of the times, that there will be developed an organization for more efficient delivery of medical care, and that government will more clearly outline and define its obligations so that the free enterprise segment can proceed to develop in the health insurance field.

The Life Insurance Medical Research Fund

(*Dr. Simmons*) Our next speaker this morning is Dr. William A. Sodeman, a native of Pennsylvania, who received his basic education in the public schools of Toledo, Ohio. He holds both the Bachelor of Science and the Doctor of Medicine degrees from the University of Michigan, the latter having been received in 1931. In addition, he holds the honorary degrees of Sc.D. from Villanova University and L.H.D. from Jefferson Medical College.

He has an illustrious background from which I can select only a few major items. From 1941 through 1946, he was Professor and Head of the Department of Preventive Medicine at Tulane University School of Medicine. He was then named Professor of Tropical Medicine and Chairman of the Department of Tropical Medicine and Public Health, a position which he held from 1946 to 1953. From 1953 to 1957, he was Professor and Chairman of the Department of Internal Medicine at the University of Missouri School of Medicine. In 1957, he came to Philadelphia to become Magee Professor of Medicine and Head of the Department of Medicine at Jefferson Medical College. He became Dean and Professor of Medicine in April 1958 and, in February 1962, Vice President for Medical Affairs. He remained in this post until June 30, 1967, at which time he became Scientific Director of the Life Insurance Medical Research Fund at Rosemont, Pennsylvania. He is a member of numerous boards of trustees and is author of the monograph, "Pathologic Physiology," which has been translated into the Portuguese, Italian, Spanish, Serbo-Croat, and Japanese languages. He has contributed 192 articles to medical literature.

In addition to being a member of the Philadelphia County Medical Society and The College of Physicians, he reports annually to the Association of Life Insurance Medical Directors. Thus, he represents all three sponsors of this morning's symposium.

It is a pleasure for me to introduce Dr. William A. Sodeman who will address us on "The Life Insurance Medical Research Fund."

(*Dr. Sodeman*) It isn't often that one participates in a discussion sponsored by three groups and at the same time is a member of all three. I appreciate it very much. I came to Philadelphia 12 years ago and joined The College of Physicians at that time. From that time until now, when I enter this building, with its atmosphere of dignity and stateliness, I get the kind of feeling one experiences when he enters one of the old cathedrals of Europe. And then when one enters this Hall and sees in the portraits on the walls such people looking down at him as Weir Mitchell, Benjamin Rush, William Osler, Dunglison and Gross, one really develops this feeling of awe and respect. I think it's easy to understand why an organization such as the Life Insurance Medical Research Fund had its beginnings, and had its prime champion for its beginnings, in a city with the kind of medical background possessed by Philadelphia. Although many people participated in the development of the Life Insurance Medical Research Fund, it was Albert Linton, President and then Chairman of the Board of the Provident Mutual Life Insurance Company here in Philadelphia, who was the moving force in the discussions to create this Fund in 1940 and in its final establishment in 1945.

We've heard this morning that the first insurance group in this country was established in Philadelphia and again I can say that this Research Fund, for this industry, was established here as well. At the time, there were about 500 life insurance companies in the United States. There are now about 1,700. At the time, there was little in the way of governmental activity in research. The Federal budget for research in medicine was only several million dollars. The establishment of the Fund, by an industry, to look into the problem of health and particularly into those diseases shortening life was a very important and very fundamental approach. And it has continued to be so. Since that time, of course, the government has evolved an organized approach to research to such a great extent that it has overwhelmed all other funding in this country. Since 1945, the Life Insurance Medical Research Fund has put $25 million into research. The Federal government has put, as you know, well over $500 million yearly into comparable activity. Many of the NIH programs, which run up close to a billion dollars, are not all basically for project research.

One would think, then, that a fund such as our own, which was established for and does support research projects related to biomedical problems, might add very little at present to what goes on in research in this country with its dollars but a drop in the whole pot of money that exists. But this isn't true, and it isn't true for several reasons. In the first place, we have within the insurance industry some very dedicated people who help keep the Fund in perspective. This is true of the medical directors who participate in Fund activities. Here today, we have Dr. Paul Robinson, who just talked to us and is just retiring as one of the Medical Directors' representatives to the Fund. Dr. Sergeant Pepper, who is here, is in the same group. Dr. Thomas Sexton and Dr. Albert Larson, both of whom are here this morning, are others. These men supply an input into the Fund from the medical components of the industry not only for review but for comment on and help in the maintenance of the Fund in its proper perspective. This is very helpful. Then, too, if our funds are to be utilized effectively, since we have only about a million and a half a year, we must be selective in the projects chosen. We must use this money strategically to help people in research so that we are not merely adding our component of money to the same programming coming out of

Bethesda. By strategically picking projects in the utilization of this money, we have accomplished this purpose. One of the examples is the fact that the Fund, as small as it is, has supported five individuals who have become Nobel Prize winners. Anybody can support a Nobel prize winner after he gets the prize, but, when a group in its selection of people does this five to ten years before that time, you can see their evaluations are done effectively. This work is done through a mechanism which is very very efficient, through an Advisory Council which meets once a year to select for support those requests considered promising out of the programs submitted. From its very beginning this Council has been manned by those highly respected in medical education and research activities in the academic community. At the present time we have on this Council such individuals as James Wyngaarden whom many of you in Philadelphia know from his activities at the University of Pennsylvania as well as at Duke. Until recently, Carl Moore, Professor of Medicine and Head of the Department of Medicine at Washington University was our Chairman. That position now falls to C. R. Park, who is Professor of Physiology at Vanderbilt. The Council includes David Bates of McGill, Frank Dixon who is a research pathologist at La Jolla, Robert Forster, Professor of Physiology at the University of Pennsylvania, Donald King, who is Professor of Pathology at the College of Physicians and Surgeons at Columbia, Donald Seldin, Professor of Medicine at Texas Southwestern, Richard Egdahl, Professor of Surgery at Boston University, Albert Lehninger, Hans Neurath and Emil Smith, Professors of Biochemistry at Johns Hopkins, Washington University and UCLA respectively. It's this kind and this level of academic competence which has brought about the utilization of these funds very effectively.

The Fund has two other programs aside from support of projects in research. We have an activity which we call a Medical Scientist Program. In this activity individual students in schools of medicine in this country and Canada, chosen by their medical schools, may be put up for selection by our esteemed Advisory Council to enter into a program leading to both the M.D. and the Ph.D. degree. These programs stimulated by the Fund now are beginning to evolve in many medical schools. There have been some pilot programs supported by the National Institutes of Health, but this program has not evolved very effectively as yet. We have at the present time 131 individuals in this activity in various medical schools in this country and Canada. Anybody can support a student in medical school and it's fine if they do so, but those of us who have worked in medical schools (and I was in the dean's office for 10 years, which is twice as long as the average) know that anyone who enters medical school today can find, through federal and private sources, the support he needs, even if he doesn't have much in the way of personal financial backing. Consequently, one ought to do something more than this if he has limited funds. And we have done so, selecting those having potential in research and medical education to develop in them a background in investigative methods as they evolve in both the M.D. and the Ph.D. programs to become educators and to become basic investigators in biomedical research. You might say we are drawing people from practice when we do this, but let me point out to you two things: first, this is a small group and those going into research in medicine represent only 5 to 8% of those in medical schools at the present time. Our program isn't increasing this component; it is making some of these individuals sounder individuals when they go into their chosen activities. Second, in the manpower problems we have today and the need to expand the medical schools, we

need people of this type. Therefore, this program which was started by the Fund represents one of the important techniques the Fund has of implementing programs in fundamental areas which nobody else is considering. This has been a very effective approach and one can see in most of the medical schools across the country that this idea is catching on with money obtained from other sources to carry through with it. Of the 131 individuals we have chosen, some of them have left our program at a time when they could get funds from other sources. But their goals have remained established. Out of the 131, we have had only five individuals not measuring up to their goals, that is, who have decided not to do biomedical research and not to teach. They wanted to go into practice. In only five of the 131 has this happened, and I think this is a good record.

The Fund has one more program, our so-called third program, which is just evolving at the present time. This activity has to do with some of our country's major problems. We've heard about the manpower shortage this morning. I am very concerned about it and serve on Dwight Wilbur's Council on Health Manpower at the AMA. All of us who are interested in this problem know that it isn't a numbers game only, that we have our problems not only of having more individual physicians to lead health teams and having more allied health personnel but, in addition, we have deficiencies in techniques for delivery of health care. This problem has been established by any number of groups: by the AMA in its approach, by the President's Commission on Health Manpower and by many others. We have numbers of our citizens who never gain entry into our health care systems satisfactorily. And we need methods to correct this. These problems have not been taught effectively and have not been approached effectively in the medical schools. They require individuals who have background in areas other than the basic medical sciences. Preparation is not for bench research, not for the kind of research the biochemist does. Consequently, their background in basic science must be of another kind. It must be in economics, in political economy, in chronic epidemiology, and in a number of related areas. We have very few people trained in medical sciences and in these fields as well. Those who manage the Fund, that is, the members of the Board of Directors who represent the insurance industry, felt that this area required an effective program, in which we could choose and train individuals who have status on their own medical school faculties, who have the desire to do this kind of work, who have already reached status in one of the divisions of medicine (whether this be internal medicine, pediatrics, surgery or whatever it is) and who plan to enter into a research program of this sort. There are now many departments of community medicine in medical schools, but many of these are set aside from the rest of clinical medicine. Because penetration into the community in this kind of program is extremely important, participants must relate with status to the clinical departments. If we take individuals of the sort who have this interest and we fund them in partnership with the school so that they will evolve in that school to teach students and do research in these areas, they will have an influence on other members of the faculty, influence upon the students and an impact on delivery of health care within the medical center as well as outside the medical center. We will have developed in this way a focus in strategic places in this country for the development of this research. As you can see, we put our money again in men; we put our money where we get the most out of the small amount of money we have; we develop men who have an influence for a generation. In turn, these individuals can

obtain project research money from other sources. But you must have those who know what to do to ask for such project money. This is the basis for the third program of the Life Insurance Medical Research Fund. It is just starting. We have made only one grant thus far and that was a month ago. It was made to the University of Rochester School of Medicine in the Department of Medicine to Dr. Paul Griner, an Associate Professor of Medicine there. We plan to set up several more projects this year. We think the program is very fundamental.

You can see that the Life Insurance Medical Research Fund, although it has restricted money, utilizes those funds in a very effective and efficient way so that it strategically can get the most mileage out of its dollars not only for the Fund and for the industry, but for the good of the health of the country. We need more money as everybody in research needs more money, and we do have plans for greater participation of the industry. Those of you who have read the report of the President's Commission on Health Manpower saw several significant statements there. One is that this total problem, with all the tax money that the Federal government has, is too big for the Federal government alone. This means that private sources in all areas, whether from foundations that are independent completely, whether from areas supported by various groups and various industries, or whether from various other segments of society, have a very important part in inter-relating to supplement and complement the total funding in health research in this country in the most efficient way that it can be done. We think that the Life Insurance Medical Research Fund and the life insurance industry, through the Fund, is accomplishing this.

(*Dr. Simmons*) Thank you, Dr. Sodeman. The Life Insurance Medical Research Fund has done fine work over the years and is continuing to do so under your leadership and we are very fortunate to have a person of your caliber to provide this impetus to the work.

The Medical Information Bureau

(*Dr. Simmons*) The next presentation was prepared by Mr. Joseph C. Wilberding who received an A.B. degree from Yale University in 1934 and an LL.B. degree from Columbia in 1937. He was associated with the New York law firm of Bleakley, Platt and Walker from 1937 to 1939. Following this, he joined the Legal Department of the New York Life Insurance Company where he remained until 1947 except for service in the United States Army. In 1947, Mr. Wilberding became Executive Secretary of the Medical Information Bureau and has continued in this position since that time. He has served with distinction in this post and has become well-known and well-loved by the medical directors and lay underwriters with whom he has worked over this long period of years.

Unfortunately, Mr. Wilberding has been stricken with the flu and is unable to be with us. However, we do have a copy of his paper and, in view of the importance of this subject, it will be read by Dr. Whitman M. Reynolds, 2nd Vice President and Medical Director, Bureau of Insurance Medicine of the Equitable Life Assurance Society of the United States.

(*Read by Dr. Reynolds*) It is my part of this program to talk to you regarding the organized exchange of medical information between the medical directors of life insurance companies. The organization responsible for this activity is called the Medical Information Bureau and I am its Executive Secretary.

I feel sure that most of you, over the years, have realized that some sort of institutionalized exchange of information

occurred between life insurance companies. However, since we have seldom gone out in the world to publicize or explain our work, I am afraid there is a fair amount of misunderstanding about our activities.

In recent years we have tried to dispel at least some of this misunderstanding by talking about the Medical Information Bureau openly and frankly in the insurance business. However, this meeting today is the first time that I have talked generally about the Bureau outside the confines of the insurance world.

Now I don't expect to dispel any ingrained prejudices, in this brief talk, but I do hope that as a result of what I have to say, most of you will feel that the Medical Information Bureau is a reasonable system, that it was founded to meet an obvious need, and that it has been organized so as to protect the reasonable interests of all, including those persons who apply for life insurance, honestly and in good faith—in other words, many of those "forgotten people" mentioned in our last election.

My approach will be along these lines:

First, I should like to describe what I see as the nature of the underwriting process in the case of ordinary life insurance. This, I believe, will indicate the reasonable need for an information exchange.

Second, I shall describe the nature of the exchange, what information goes into it, how it is handled, and what limitations are put on its use.

And, finally, I would talk very briefly of the future, and a possible contribution that this exchange may make to medical research, going beyond its present life underwriting function.

Now as to the nature of the life insurance underwriting function. Here, I think there are three points. These are simplified, and underwriting is, of course, a complicated subject about which far more can be said. These points are, however, basic and they do relate to our Bureau.

First, please don't think of life insurance as simply a series of business corporations, merchandising, through persistent agents, a product whose sale sometimes results in profits and sometimes in losses—but where, in either event, the results, good and bad, are picked up by stockholders. This is simply not the case.

Fundamentally, life insurance is a group, or groups, of people who have gotten together to share the cost of a predictable hazard—death. Perhaps better stated, they are groups of people who have been assembled through the efforts of life insurance agents to share together the cost of the hazard. The agent is the catalyst who brings people together in their own interest, rather than the driver who forces people to buy a product.

Now many of the people, who join together in these groups, go a bit further and use life insurance as a means of cash saving, as well as a sharing of the cost of the hazard. The benefit of mass saving is, of course, another reason for the purchase of life insurance, but it is not the fundamental basis of the arrangement. You can save on a mass basis at a savings bank or a mutual fund, but only if life insurance is involved can you cover the risk of death.

It is from these groups of people, in their sharing of the risk, that most of the funds come to pay off the contracts. It is true there is investment income (and there is also agency and company expense), but by far the greater portion of the money involved is contributed by the policyholders as premiums, and most of it goes to pay the beneficiaries. This is where the money comes from; this is where most of it goes. Inasmuch as most of us own life insurance, life insurance is "us," not "they."

A second underwriting point is absolute: every applicant for life insurance will die, but it is impossible to say exactly when for any individual. It is, however, possible to foretell to a remarkable degree, through statistics, that a certain number of any age

group will probably die, from some cause or another, within any one year. Therefore, sooner or later, in the absence of lapse in payment of premiums, he or his heirs will be collecting his share of the group kitty.

The basic question to be decided when the individual applies for life insurance is how much he should pay into his group each year, in order to contribute his fair share to the predictable death benefit payments that will fall due each year. If he doesn't contribute his fair share, some other policyholder, somewhere, will make it up.

Now remember, he has designated what he wants as his share at the time he enters the group. In other words, when he applied for life insurance, he designated the face amount of the policy. These face amounts can run from five hundred dollars to over sixteen million dollars on one life, and they may provide for payment of premiums—or contributions to the kitty—over extended periods of time, one to fifty or more years. There may be a lot at risk in the case of one individual.

This is where the medical underwriter comes in. He must make the decision as to what group the applicant belongs in and, in effect, how much premium he should pay in order to make his fair contribution to the group. And if the premiums have not been properly calculated, or if too many poor longevity risks have been admitted to the group, and numerous early losses have occurred, then it is likely to be the remaining policyholders who will, directly or indirectly, make up the funds to pay these losses.

The underwriter has certain tools to help him. For instance, he has a standard mortality table showing the probable longevity of groups of individuals, based on age. This is the basic life insurance tool, and with it the underwriter can figure out the necessary premiums, using age alone, if he can assume that the amounts at risk will be uniform, at a relatively small level, and that all his applicants are in an average state of health. But not everyone who applies is in good health, or even an average state of health, and, as previously indicated, the applications can be in varying amounts, even up to the previously-mentioned sixteen million dollars. So the underwriter must go further than just determining age before admitting an applicant to the group; he has no alternative but to try to find out the state of health of the applicant. And remember, the applicant has opened the door to such an inquiry by applying for life insurance.

There are two situations when this need is apparent:

1. Where the applicant is in truly bad health and has minimal prospects of even the shortest longevity. Here, for this individual to make an adequate contribution to cover his fair share of the risk, such a large payment would probably be required that the policy would be unattractive to him. Probably also there would be very few persons similarly situated who would wish to purchase life insurance at such a cost, and thus you would not be able to form a group, and remember, group sharing of the risk is the basic principle of our business. These people are, therefore, usually considered uninsurable. It is interesting to note that the life insurance business has whittled away at the number of situations that it considers uninsurable, so that now only approximately 2 to 3 percent of ordinary life applications are not accepted. Higher mortality groups are being assembled and risks are being taken in so-called "experimental" cases. From the experience with these cases, it is hoped that further mortality groups can be developed on a basis that will be attractive to many risks usually considered uninsurable.

2. Where there is some health history that indicates the individual does not belong in a standard mortality group. Over the years, the life insurance business has made statistical studies of many aspects of health history. I feel sure most of you are familiar with the build and blood pressure studies. It has been clearly shown that the mortality rate for some such groups exceeds the standard rates. However, it is also possible to insure these people for life insurance by calculating what this extra risk is and requiring higher premiums. In such an event, if enough of them are insured, they will make an adequate contribution to the kitty so as to be able to be accepted for large amounts. This is usually referred to as substandard or extra risk issue, and, although only 6 percent of the number of policies issued in a representative year (1967) were substandard, the volume at risk was quite large. For instance, in 1967, over six billion dollars of extra risk ordinary life insurance was issued, and the total amount of such insurance in force at the end of the year was over thirty billion dollars.

The presence of an adverse health history is thus a vital factor in the underwriting of about 9 percent of the applications.

But the ability to obtain adverse health histories is not only of assistance to these cases; it is also an assurance to the underwriting of the remaining 91 percent of the cases which are accepted standard.

In situations where there is an extra, but acceptable, risk, the underwriter must see that such individuals are placed in groups that pay an extra premium for the extra hazard. I would emphasize that the medical underwriter does not make a medical diagnosis; he simply tries to group individuals with like individuals in the same statistical group, so that all will make their fair contribution to the pool. There is a difference in the two decisions, and it is one that is sometimes misunderstood by the public. This point will be mentioned by others here today.

The underwriter has a lot of choices of various boxes (or groups), in which he may put the various extra-risk applicants, and he may have a lot, or only a little, medical information. There is no doubt, however, that the more and the better medical information he has, the better and fairer decision he can make.

Naturally, companies in our business take different attitudes towards different impairments. Although, as previously stated, statistical studies of impariments are available, they are usually of past histories, and their use must be tempered by knowledge of the advances of medicine.

The action of the companies will differ on many occasions as a routine matter. The point is that they must be able to make informed judgments in order, basically, to see that each policyholder makes a fair contribution to his group. And to make an informed judgment, the medical underwriter must have the maximum amount of medical information reasonably available to him.

Now, there is a third point relating to underwriting which is more sociology than medicine or insurance. I would mention that among applicants for life insurance there are the forgetful: they don't remember that hospital visit three weeks ago. There are the dupes: they let the broker fill out the application. And there are the outright cheats: people who are willing, ready and anxious to have someone else accept their burdens.

Fortunately, there are really not too many of these bad eggs in the world, and, despite what you may hear and feel, I am informed by many underwriters that the situation in regard to this type of dishonesty is not discernibly worse than it was thirty years ago. Still and all, it is

obvious that for any business that is accepting large risks with other people's money, some steps must be taken to guard against the deprivations of the dishonest.

Experience indicates that where an individual has applied to one company and has been declined or rated, he is more than anxious to secure some life insurance; and at this point, when he comes to another company, knowledge of prior findings may be especially valuable where there is an effort to defraud.

It therefore seems obvious that the medical underwriter must have available to him medical histories and histories acquired by other insurance companies in connection with applications for insurance should be especially valuable. This is the reason for the existence of the Medical Information Bureau. Insofar as the industry has acquired any previous knowledge about an individual, on his subsequent application for further insurance the new medical underwriter will have at least some signal as to what has been previously found.

Now what is the nature of this exchange? The Medical Information Bureau is an unincorporated, non-profit trade association. It now has over seven hundred members, in both the United States and Canada. Each of these is a life insurance company and each must be so qualified within the definition of the United States Internal Revenue Laws. Each member has a locally-licensed physician serving as Medical Director. Both the member company and the Medical Director, as an individual, must sign a pledge that the rules and principles of the organization will be followed.

The Bureau was founded in 1890 by the Association of Life Insurance Medical Directors and until 1947 was operated as a function of that organization. In 1947 the Bureau was reorganized as a separate institution to be governed by an Executive Committee of nine company officers. Four of the members are medical directors, four are company senior officers other than physicians, and one is a general counsel. This committee is responsible for the management of the Bureau.

Reporting Procedures

Naturally, lines must be drawn as to what information is required to be forwarded to the Bureau by the members. The Executive Committee has done this by adopting a so-called List of Impairments. This list covers a broad spectrum of health conditions and other factors that could be of some significance to the home office underwriters.

If a member company, in considering an application, or even preliminary inquiry, finds one of these conditions, then that company is pledged to report such information in brief, three-digit, form to the Bureau's central office. These entries are made daily by member companies, and each separate condition is indicated by a code number. The Bureau handles up to nine thousand such entries a day.

The new entries are correlated with information already on file and made available thereafter to any member company who has received an application or inquiry or claim from the individual. The members check the names of all ordinary life cases with the Bureau records and information may be found, depending on the company, in 5 to 40 percent of the cases submitted. Periodic studies by members indicate that substantial mortality savings result from checking cases through the Bureau.

Sources of Coded Information

The Bureau receives these entries of coded information only from its members. There are no outside sources of information. The Bureau has no employees who go out to investigate or examine individuals. All information is provided by the members.

The members do *not* indicate whether

an application has been declined or rated or postponed or accepted. They also *do not* state the amount of insurance applied for. In sum, *the underwriting evaluation of a case is not reported to the Bureau.*

The members simply send in the codes, which will give a general idea of the significant medical or non-medical facts they have learned. By having this information available, underwriters thereafter will know that past problems existed when a subsequent application or inquiry is received.

Most applications ask questions concerning any record of previous applications, and there are, of course, other ways whereby a company can sometimes find out the underwriting action of other companies, if this is thought to be necessary. They cannot, however, learn this through the MIB; company action is simply not shown in the Bureau's records.

Maintaining Accuracy

Great stress is laid on identity, accuracy, and correctness in submitting and printing reports. The Bureau follows a series of checking procedures aimed to produce correct copy. Very seldom does a printer's error, or mistake of identity, occur. Avoidance of this type of error is not an easy task, because the Bureau's service office is not given the key to the symbols; the work of printing and editing must be done without knowing the meaning of what is being handled.

It should be noted that all MIB information is not of a debit or negative nature. Frequently, the codes will indicate the results of favorable tests, and this should help in placing the risk if further applications are submitted. For example, favorable EKG's and X-rays are reported and also the results of favorable glucose tolerance tests. The presence of a report of such a test will often expedite underwriting.

If an impairment has been reported present by a company and on subsequent examination, by the same company or by another, it is found no longer present, then the Bureau's rules require that this favorable result should also be reported to the Bureau. This is sometimes referred to as "clearing the record." By "clearing," it is not meant that the old information is eliminated. What is left, after such an entry, is both the old and the new information. Although it very rarely occurs, if information shows that the old entry was based on incorrect data, the reporting company is required to correct the record.

Reporting companies are encouraged to make available their findings to attending physicians, on request of the individual. Although disputes in this area can arise, they are infrequent, possibly because we try to handle medical matters through and with medical people.

As to use of MIB information in the home office, I emphasize that it is not given to the members without limitations. Under the mutual agreement which all the companies are pledged to observe, MIB information is to be used as a flag of warning and as a supplement to the member's own underwriting investigation for personal insurance or claims thereunder.

Under Bureau rules, no application can be declined, rated, or restricted solely because of an MIB entry. This does not mean that a medical examination must always be asked for; in some circumstances it may be an attending physician's statement, or a credit report, or other background information. It does mean, however, that each member must make its own independent underwriting investigation and come to its own independent conclusion regarding the risk.

MIB information is made available only to the home offices of member companies for underwriting and claims purposes. It is not given to government or any others outside the membership. Strict security is demanded and observed.

This last point occasionally raises dif-

ficulty, especially in highly competitive markets. Questions are asked as to why the Bureau insists on the secrecy of MIB impairment entries. Why does the Bureau go through this work of pledges, codes, code book accounting, and all the paraphernalia of trying to keep such a tremendous body of information confidential? It is done essentially for two reasons.

First, it is a principle of confidential information that, unless you keep it confidential, your sources are unlikely to cooperate again in the future. The insurance business receives many items of confidential information, which are necessary to sound underwriting. Sound underwriting means lower costs of insurance to all policyholders, since it insures equitable treatment and protects the honest from the few who try to conceal significant information. Therefore, representing the industry, the Bureau must protect its sources.

Second, the information developed and maintained is primarily medical in nature. The individual himself may not know all the medical facts regarding his state of health. The Bureau's constitution provides that the MIB must protect not only the interests of the insurers and other policyholders, but also the interest of the applicants.

The Bureau, therefore, is in a difficult area. It is possible that the applicant may be suffering from a serious disease and his physician may not have told him. It is possible that the applicant knows he has something wrong with him, but his business associates do not. To protect the individual's interest, the information about him must be kept confidential.

An individual with an MIB record will always receive careful consideration, and the action of one member does not determine that of others. Each company is entitled to reach its own underwriting decision with all known facts in view. This is all the MIB seeks to attain.

In the final analysis, I believe the Bureau, as part of the life insurance industry, participates in a great work. I think our business helps good people meet their responsibilities, as individuals, in a simple, economical manner. It would be naive to believe that there are not some around, who would just as soon see other people shoulder their burdens.

The MIB makes its contribution by trying to assure that each application will be evaluated on the facts. The Bureau is not infallible. Undoubtedly, there are situations which are missed. But if the Bureau did not exist, one of two things would surely occur, and probably both: either more lengthy and costly underwriting procedures would be adopted or mortality rates would rise sharply. In both situations, it would be the honest policyholders who would be bearing the brunt of the increased cost.

As to the future, we see the Bureau as continuing to perform a useful underwriting function for many years to come. We have been in existence since the 1890's; we have moved with the times insofar as reorganizing our procedures is concerned; and we have been favorably examined by state insurance authorities during the past twenty years.

But we do not see this underwriting function as being enough. With the future developing use of computers, we see it as probable that the vast storage of medical information available to life insurance companies (either through their life or health insurance activities) can somehow be made helpful to medical research. We are not sure how, at this point, and we are not now on a computer, but we are hopeful, and we are working in this area with some of the best minds in the business consulting field.

Several research projects have already been conducted with Bureau assistance, and here I refer to studies of diabetics by Dr. Goodkin of the Equitable, of EKG's by Dr. Singer of New England Mutual,

and also of EKG's by Dr. Mathewson of the Great-West in Canada.

As you know, medical research, medical knowledge, and medical practice are all moving—and moving fast. It is the intent of our industry to play a part in some of these matters, and we believe our Bureau will have a good contribution to make to this effect.

Conclusion

In conclusion, I would emphasize a point that I have not previously made. The basic ingredient woven into the warp and woof of this institution is the continued interest and guidance of the company medical directors. We know that, if we did not seek the highest professional standards for the confidential care of this information, our industry could not underwrite as economically and as efficiently as it has. We appreciate the cooperation that has existed to such great extent between our medical directors and their brethren in the medical profession.

Finally, as a "carry-away," I summarize the points that I have tried to make:

1. Life insurance is a device whereby responsible people may join together to share the burden of the risk of death.
2. In any sharing, the burden must be fairly and intelligently allocated; otherwise, people would not join therein. In large measure, the success and growth of the life insurance business has been a result of its fulfilling this requirement.
3. Knowledge of prior health history is essential to any such allocation.
4. The MIB helps meet this need, and it is organized in a reasonable fashion to protect the proper interests of all concerned.
5. We see a future in which large medical data banks, such as MIB, may become of use to medical research, at the same time maintaining the anonymity of the individual. We are working to develop this possibility and are hopeful of favorable results which should appear in the middle or late 1970's. We, in the Bureau and our industry, are trying to move forward with the rapidly developing changes that are occurring both in medicine and in the techniques of handling tremendous amounts of information. The picture is not yet clear, but I am optimistic as to the future.

Clinical *Versus* Insurance Medicine—There *Is* a Difference!

(*Dr. Simmons*) Our next speaker is Dr. D. Sergeant Pepper. Dr. Pepper was born in Philadelphia on May 12, 1907. Following his graduation in 1925 from the Haverford School, he engaged in additional study at the University of Pennsylvania and at Franklin and Marshall. In 1932, he was graduated from the University of Pennsylvania School of Medicine. After additional training in medicine, he was licensed to practice in the State of Pennsylvania in 1934 and entered the private practice of medicine in Philadelphia. He served the University of Pennsylvania Medical School as Assistant Instructor in Medicine and as Ward Physician for the University of Pennsylvania Hospital. In 1939, he was made Associate in Medicine and limited his practice to internal medicine, with emphasis on communicable diseases.

He served with distinction in the Army Medical Service during World War II and left active duty at the end of 1945 with the rank of Lieutenant Colonel. He is now a Colonel in the Army Reserve Corps.

Dr. Pepper entered the life insurance business in January 1946 as a staff physician of the Provident Mutual Life Insurance Company here in Philadelphia. In 1946, he was made Assistant Medical Di-

rector. In 1952, he joined the Connecticut Mutual Life Insurance Company in Hartford as Assistant Medical Director and has served successively as Associate Medical Director, as Medical Director and, since 1965, as Senior Medical Director.

He was Vice President of the Association of Life Insurance Medical Directors of America in 1962 and President during the year 1963.

He is an Alumni Trustee of the University of Pennsylvania, a Fellow of the American College of Physicians and a past Fellow of The College of Physicians of Philadelphia.

It will be of interest to this audience that in 1950 he was elected a Delegate to the Pennsylvania State Medical Society from Philadelphia County Medical Society for a two year term.

In the early 1950's, Dr. Pepper was on the original committee that proposed and drafted the constitution for the Board of Life Insurance Medicine. He was certified by this Board in 1952 and became its Chairman in 1957 and 1958.

He has been a member of the Hartford Medical Society since 1954 and has been its Treasurer from 1959 until the present. He is a member of the Professional Education Committee of the American Cancer Society and serves on the Board of Directors of the Mount Sinai Hospital Association.

It is a pleasure to introduce Dr. D. Sergeant Pepper who will speak to us on the subject, "Clinical *Versus* Insurance Medicine—There *Is* a Difference!"

(*Dr. Pepper*) Drs. Wood, Mendell, Simmons, members of The College of Physicians of Philadelphia and the Philadelphia County Medical Society, and guests —I might almost say "Family,"—because my wife has been kind enough to come here today, and I see my revered Uncle Perry looking down upon me from the gallery up therel I am very honored to have been asked to appear on this program and I'm very happy to be back here in my native city. Although I have been away from Philadelphia for twenty-two out of the last twenty-eight years, I still feel very much at home. I was a member of both of your societies many years ago and attended many meetings in this hall and over at your auditorium at Twenty-first and Spruce Streets. I don't believe I abused the privilege of being at the podium very often in those days and I trust that I won't be too long on this occasion.

After I left Philadelphia and went to Hartford in the insurance business, I found I was still close enough to Philadelphia so that I could return frequently and I have been very glad to have had that opportunity.

Although I am very pleased and honored to be on this program with so many distinguished gentlemen, I am not happy about the title assigned to me. I do not know who chose it and I hope that Vaughan Simmons will not tell me after the meeting that I did!

However, the choice of the word "versus" was unfortunate. The first meaning of versus is as it is used in law or sports and suggests a conflict of one side against another. This is certainly not what we want. The second meaning of the word is "considered as the alternative of," as in free trade versus tariffs. This again does not apply, except perhaps when one decides to take up insurance medicine as an alternative to a job in clinical medicine. I would hate to think that a seriously ill patient might consider insurance medicine as an alternative to clinical medicine. That might be disastrous.

So I ask you to forget the printed title. I want to talk about clinical medicine and insurance medicine, their similarities and their differences.

But first I had better give you a brief introductory lesson in life insurance in order that you may have a better understanding of the nature of our work.

Basically, insurance medical directors are interested in long-term prognosis of disease so that purchasers of insurance may secure financial protection against life's uncertainties for themselves and their families at a price that is consistent with the risk involved.

Life insurance is like fire and casualty insurance. The price of the insurance varies with the risk. For example, fire insurance on a frame house in the country a long distance from any fire department will cost more than insurance on a fireproof building with installed sprinkler system just down the street from the firehouse. Likewise, an applicant for life insurance with a rheumatic mitral stenosis or diabetes has to pay more for his insurance than an individual in perfect health.

Up until the end of the last century, applicants for life insurance were either accepted at standard rates or declined. Often the decision was made more on an applicant's appearance than on a true medical evaluation. In the late 1890's, however, Mr. Arthur Hunter, Actuary, and Dr. Oscar Rogers, Medical Director, both of the New York Life Insurance Company, devised a numerical system by which applicants could be classified so that people with medical impairments could be insured at equitable rates. The numerical system is based on the assumption that healthy individuals have a mortality that may be represented by the percentile 100, which is equated from a combination of height, weight, age and sex. In actual practice, the percentile 100 is a modal figure. Negative and positive values are added to or subtracted from this figure. Thus the applicants referred to above with rheumatic heart disease and diabetes would have a numerical addition to the basic 100 percent. A credit, or minus value, might be associated with a favorable physique or with longevity in the family history. The final classification, which is the algebraic summation of the debits and credits, is a percentile which represents the underwriter's opinion of the mortality risk in terms of a previously determined standard. In actual practice, this is but a guide or framework. There is always an added element of judgment.

At age 40 in normal healthy people, we average four deaths per 1000 in the next year, a figure which is taken from our mortality tables. This then is the "standard" or 100% mortality. If six deaths occur, we have 150% mortality, eight deaths 200% mortality, etc. We speak of "standard" cases when the anticipated mortality is below 130% and "rated" cases when we expect the mortality to be above this figure. In most companies, the standard class runs from 85% to 130%. Substandard classes may reach as high as 1000% and rarely even higher. Most companies have a ceiling of 500%.

In addition to the debits which are determined for medical reasons, there are debits which may be assessed for other reasons such as occupation, hobby, morals, habits, finances, etc. As the reasons for a rating or declination are not always able to be discussed with an applicant, he may unjustly blame his misfortune on the medical examiner or the personal physician's statement. When information, whether medical or otherwise, is obtained from confidential sources, we cannot, of course, discuss the substance of the information or the source with the applicant.

Needless to say, once a rating has been decided upon and the applicant accepts the policy and pays his premium, the insurance company cannot increase the rating no matter whether his health deteriorates or he decides to become an astronaut. On the other hand, many ratings are removed or reduced for improvement in both medical and other conditions.

It is obvious that there must be many similarities between insurance and clinical medicine. We all start with the same training and have to go over the same hurdles

to be licensed to practice medicine. Many of us have had experience in the clinical practice of medicine before entering insurance medicine. In general terms, our problems are much the same: developing and interpreting history, physical findings and laboratory tests in order to reach a diagnosis.

We differ, however, in how we get the necessary information to reach a diagnosis and what we do once the diagnosis is made.

In most instances, the clinician is dealing with a patient with symptoms or with an obvious disease process. The patient wants relief and is more than willing to cooperate in any way to help his doctor arrive at the proper diagnosis. The physician thinks in terms of this one individual and does his best to diagnose the trouble and give proper treatment. He may realize that there is an immediate or even remote threat to life, but if he is giving the best treatment available his mind does not dwell on the mortality significance of the illness as he feels this is beyond his control.

I also believe that the average clinician thinks in terms of pathology, rather than in terms of years of survival. For example, in a patient with repeated attacks of pyelonephritis, he is concerned over the development of chronic pyelonephritis and eventual kidney failure. He visualizes the progressive kidney damage and does all he can to prevent it, but he does not think of this disease process in terms of the average number of years of life remaining. After all, rarely can one predict the course of disease in any one patient and, perhaps in a year or two, the outlook will change and a more accurate prognosis can be given.

In life insurance medicine, we deal with applicants who are presumably healthy. This is borne out by our statistics which show that 90% of applicants for life insurance are issued standard policies. The other 10% have some significant medical history or some medical condition at the time of application. Less than 2% are declined, and the remainder are either issued a rated policy or fail to complete their application. The latter, perhaps 3%, are probably scared off by the prospect of paying a large extra premium or of having to undergo some further medical examination requested by the insurance company.

Our medical histories come to us from thousands of examiners based in every state across the country. Our medical history forms are familiar to many of you. The questions are stereotyped and very general in nature. The applicant feels no compulsion to give any more information than necessary. We are dependent upon our examiners to develop points of interest. The illness or operation that may be of importance is often two or more years prior to the date of the examination. As you well know, the human mind tends to forget the unpleasant facts of illness and to recall only the favorable ones.

This is why it is just as important for us to obtain records of former illnesses, details of surgical procedures and pathological reports of removed tumors as it is for you in your care of a new patient. Not all patients are told that they have had cancer, and not all patients are given an accurate account of their blood pressure fluctuations. Yet, I am sure, that you will all agree that both of these facts may alter longevity.

Our physical examinations are also not as complete as we would prefer to have them. Rectal and pelvic examinations are not required nor are ophthalmoscopic examinations of the eye or palpation of the peripheral pulses. Routine laboratory work is limited to a test for albumin or sugar in the urine for the smaller case and urinalysis, chest X-ray and EKG for the larger amounts. Many of these omissions are forced upon us by competition. If one company decides that life insurance

can be written without financial risk by omitting the rectal examination, other companies may have to follow their example. Life insurance agents or salesmen learn very quickly which company has the fewest requirements. They then take their business to this company.

As medical directors we must review this somewhat abbreviated history and physical and decide whether we can approve or decline the application. Frequently we need further information. This may mean a report from the personal physician, a sigmoidoscopy, X-ray or laboratory study. Here again we may be limited in the extent of our investigation. We can only spend a certain number of dollars for medical investigation per $1,000.00 of life insurance without jeopardizing the complicated premium structure. We also have to limit our laboratory studies to those tests that have no risk involved to the applicant. Cardiac catheterization or coronary angiography are hardly indicated. Even the B.S.P. test is considered too risky in many comapnies.

We have, of course, other sources of information. Dr. Reynolds, in giving Mr. Wilberding's paper, has described the Medical Information Bureau. While we cannot use this information as a basis for declining or rating an applicant, it often gives us a check on whether the applicant has given us an accurate history. If it does not agree with the history, we have an opportunity to re-examine or re-question him in order to confirm the MIB data. We can also review the business inspection report that may contain items of past illnesses or operations. In large cases, the inspectors may interview the applicant or his wife, his neighbors, business associates, local merchants and druggists. It is surprising how much medical information is obtained.

Finally, we must classify each applicant into a standard, rated or declined category. After that, his individuality is lost for he is only a part of a large cohort. If we have classified him correctly, it does not matter to the company if he dies sooner or later. The group, as a whole, will give us the expected mortality rate.

In summary, then, physicians both in clinical and insurance medicine are evaluating much the same information in order to treat the physical and financial troubles of their clients. The two specialties of medicine do have differences, however.

The clinician can follow a patient and re-evaluate his diagnosis over a period of time. The insurance medical directors must reach a firm decision within a relatively short time and can only change this decision later in favor of the applicant. The clinician has the health of his patient and, to a small extent, his reputation at stake. The medical director has huge sums of money at stake. Every day he acts on many individual lives for amounts of $100,000.00 or more and not infrequently lives are insured for multiples of $1,000,000.

With these large sums, all sorts of pressures are brought to bear on him to give a standard policy or squeeze the applicant into a more favorable class. He must steer an accurate and prudent course, for some very large companies, as well as small ones, have gotten into financial difficulties through too lenient underwriting. Too strict evaluation is almost as bad, as this drives business to other more competitive companies.

Those of us who are in insurance medicine find it fascinating, intriguing and intellectually stimulating.

Insurance Forms—Problems and Solutions: A Panel

(*Dr. Simmons*) The next item on the program is a panel on insurance forms. These documents have become a real problem for practicing physicians, and

we have a panel of experts here this morning to talk about the problems and to give us some indication of what the solutions might be. They will tell us what has been done and what is currently being done to solve the problem. The Moderator of our panel is Dr. Albert Larson who has been, since 1962, Vice President and Chief Medical Director of The Travelers Insurance Company. Currently a representative of The Association of Life Insurance Medical Directors to the Life Insurance Medical Research Fund, he has also served on committees for the American Society of Internal Medicine, Health Insurance Association of America, the American Geriatrics Association and the Connecticut State Medical Society. He is a member of the Bureau of the International Committee for Life Assurance Medicine. He is certified by the American Board of Internal Medicine and is a Fellow of the American College of Physicians.

Dr. R. Robert Tyson, Immediate Past Chairman of the Standing Committee on Medical Economics of the Philadelphia County Medical Society and a member of the Board of Directors, is another of our panelists this morning. He is a graduate of the University of Pennsylvania School of Medicine, class of 1944, and is Professor of Surgery at Temple University Medical Center. Dr. Tyson is a member of the Blue Shield Corporation and a member of its Board of Directors. He is also a Delegate to the Pennsylvania Medical Society.

Dr. Robert S. Pressman is an internist and serves as Clinical Assistant Professor of Medicine at Temple University Medical Center. He is a graduate of Temple University Medical School, class of 1937. He is Attending Physician, Preventive Medicine and Infectious Diseases Section, at Einstein Medical Centers and is on the staff of Germantown Hospital. He is a Delegate to the Pennsylvania Medical Society, a member of the Insurance Review Committee and the Subcommittee on Infectious Diseases and Heart and Circulatory diseases of the Philadelphia County Medical Society. As noted on your program, he is also President of the Pennsylvania Society of Internal Medicine.

Dr. Walter A. Reiter, Jr., the third member of our panel, is Vice President and Medical Director of The Mutual Benefit Life Insurance Company of Newark. He had his undergraduate work and received his medical degree from Cornell University, the latter being conferred in 1947. He practiced internal medicine both in the United States Navy and in private practice with a particular interest in respiratory diseases. Until 1959, when he became associated with The Mutual Benefit Life Insurance Company, he had been in the private practice of medicine. He became Assistant Medical Director, Associate Medical Director, Medical Director and, in this past year, Vice President and Medical Director of The Mutual Benefit. He has served on the Executive Council of the Association of Life Insurance Medical Directors of America and on the Ad Hoc Committee for a uniform Part II, the part of the application for life insurance which is completed by the medical examiner and submitted as part of the application. Dr. Reiter is currently a representative of the Association of Life Insurance Medical Directors to the Life Insurance Medical Research Fund. I am happy to present this panel to you.

(*Dr. Larson*) I am very honored to be sitting in this hallowed chair. Gentlemen, I welcome you to this panel which is unrehearsed and unpredictable. One of the constant sources of irritation to the practicing physician ever since any type of health or life insurance has been in existence has been filling out a form. Life is getting very complicated. It makes no difference whether it's a health claim, information regarding an insurance applicant, a workman's compensation case, or a third

party liability case—all of these things require forms to be filled out and completed by the physician to show evidence of proof of a loss that has occurred for which the individual is responsible. I see no way to get rid of this irritation, but I think it might be possible to put some type of a salve on it which would make it a little bit easier to live with. Our panelists will speak about this.

Almost fifteen years ago, I served on the Committee of Professional Relations of the Medical Directors Association and began collecting forms that were used by companies. It was a rather interesting undertaking because some strange things came out. Bill McBurney, then of The Prudential, did the same thing and, at that time, he was connected with the International Claims Association in an officer capacity and was able, through the International Claims Association and the Health Insurance Council, to achieve some degree of uniformity in health claim forms. Some of the questions collected were quite interesting. It says here on an old form, 1., "Describe fully how the insured is spending his time. Does he visit his office or place of business and, if he does, for what purpose?" 2., "Do you know anything from heresay or otherwise about this claimant's character, reputation and good standing?" 3., "If the present address is rural, give the RFD number and the nearest trading point." These are actual questions from forms. Another: "Has the patient or any member of his family ever had or received treatment for a specific disease during their lifetime?" That's quite an order! "If you administered any medicine to this policyholder, what was it? How did it affect the patient? What symptoms have developed since the treatment began?" And as for the qualification of the physician, the question was, "What kind of medicine do you practice?" (Laughter.) Well, those were some of the things that we were confronted with. Now we'd like to turn the discussion over to our panelists. Dr. Pressman, why don't you begin with your story.

(*Dr. Pressman*) I am pleased to come before you to tell you of the internist's approach to filling out these forms. I'd like to say at the outset that I am more or less of the devil's advocate when it comes to insurance forms. I am afraid that insurance forms, like death and taxes, are always going to be with us. With the expansion of insurance coverage for health care and the increase in comprehensiveness, it is inevitable that the insurance company wants to know what's going on and to get as much information as possible. However, the other side of the coin is that it becomes an increasing time factor in the physician's office when you have to start processing claims for the reimbursement of the patients. You can have your hands full in short order. I have seen patients come in to my office with as many as seven different forms following a spell of illness that lasted three days. The time involved is just simply tremendous if you have any volume of patients who have been sick.

What are the problems in filling out these forms? Really, what you want to put down is the salient data: the patient's name, the diagnosis, the dates of treatment, the specific service performed and the charges. And that's really all that is necessary to report for the insurance companies to accurately know what is going on. However, there is one problem on the diagnosis that I would like to bring to your attention, and I do hope that something can be done about, and that is if the patient has carcinoma. I am sure you've all had the same experience where a patient had the form filled out and insisted on having it returned to him. Inadvertently, the diagnosis of "carcinoma of the breast" or some other organ was put down. The patient then went into a panic, because this was

the first time he ever realized that he had carcinoma.

The next problem is the dates of disability. Actually, what the insurance company wants to know is when the patient stopped work and when he returned to work. Well, the only way that I, as the attending physician, can know when he stopped work is to ask the patient. It's obvious that the insurance company can ask the same question and not bother the physician, or the insurance company can write a letter to the employer and get this information. Not only that, the patient can tell me anything he wants and I simply cannot check the accuracy of his statement, so what we are getting, in effect, is second hand information that is really not too reliable. Actually there is no difficulty in policies covering surgical procedures and there is no difficulty in those covering only hospitalization. The problem comes when the patient has disability insurance which covers time out of work and then, of course, it becomes very important for the company to know how long the patient is actually out of work. It can be a problem with self-employed people. I personally know a patient who was self-employed who went back to work who kept insisting on bringing forms for me to fill out, stating that this was perfectly okay, that he had checked it with the agent and that the agent said there was no objection to this. Obviously this could not be true.

Another thing that we find objectionable is the request for information concerning other policies. Again, this is frequently very difficult. We do not know of all the policies a patient has. The only way the physician can tell is if all forms are presented to the physician at one time. Then and only then is it possible to list all the various policies.

Finally, let me agree with Dr. Larson's point about unnecessary and irrelevant questions which only serve to infuriate practicing physicians and to make certain that the insurance company is going to get inaccurate information.

I also want to talk briefly about the request for information concerning insurability. I believe that the average internist tends to be too detailed, to give too much information. There is really only some brief data, I am sure, that the insurance company wants. In order to assemble this brief data, it sometimes is necessary to do a very extensive search of the records, and this can take a considerable period of time. This is especially true for a patient that you have been treating for a number of years. One has to find the dates the patient was seen, the diagnosis, lab data, X-ray reports, electrocardiograms, etc. This can really become very difficult. I'd like to make some suggestions toward its solution. Because of the time factor in making out forms, it might help to defray the physician's costs with some small compensation. I don't know whether this is heresy or not, but a physician has to employ a secretary whose only job is to fill out insurance forms. If the insurance companies in some way could help to defray the costs in these policies where the reimbursement is going to a patient, this might be helpful.

I think that as far as the cancer problem is concerned, the solution would be to put "diagnosis on file." If the insurance companies would accept this, then they could write to the physician directly. He could then send the correct diagnosis back, such as "carcinoma of the breast." In this manner, trouble could be avoided and it would certainly assist in keeping patients from getting terribly upset.

Regarding insurance policies covering time out of work regardless of mobility, it is up to the insurance companies to set a ceiling on the writing of health insurance policies and allow the patient to collect only a certain percentage of income to avoid profiteering on health. How this can be done I don't know, but it is a

tremendous problem. We have seen patients who have a really tremendous amount of health insurance and it almost pays them to be ill. They tend to take advantage of it and stay ill as long as they possibly can.

If you want information about other insurance, perhaps it might be wise to have a central clearing house for all policies. In the age of the computer, I am sure that this would not be too difficult. As to the unnecessary and irrelevant questions, it is quite obvious that they should be deleted. As to insurability, I think it would help if the insurance companies would state to the internists, at least, how detailed a report they want and what their underwriting needs are. Actually, I know very little about the underwriting needs of insurance companies and I would appreciate information as to what determines the insurability and what are your underwriting needs. In that way, the internist can give a very precise and brief report.

(*Dr. Larson*) Thank you, Dr. Pressman. It is not only the case of carcinoma which presents a problem; there are also many cases in which psychiatrists will not give any information regarding a patient. However, on the new form, you don't have to write down the diagnosis, but simply the code. This is perfectly acceptable if you happen to know what code you want to use. I might say that this is used very often by psychiatrists without giving any specific diagnosis.

The question about other health coverages was put in, as you realize, to cover the problem of overinsurance. The new form was gone over very carefully with the Council on Medical Services of the AMA and it is a jointly sponsored form. If you don't know or if you don't want to answer this question, it's perfectly all right. Your information may help in this new coordination of benefits program so that we have an inkling—another source of information—as to whether or not he has other coverages. We do ask the patient, too, of course.

I'd like to have Dr. Tyson continue this discussion.

(*Dr. Tyson*) The progress that has been made by the health insurance group with uniform forms has been a great help. However, as has already been indicated, there are still many problems. They are still irritating and, as Dr. Pressman indicated, when you have to go back over records, it becomes extremely irritating. I find this happening when you have to go back over old records for some new purpose such as applying for life insurance. I often find that I have to go back over old records if the insurance forms come through too late after a current illness. So the timing is important.

I do want to go over some of the general problems, some of which Dr. Pressman has talked about. In the last two days, through my office—we don't handle a great many insurance forms—we had nine totally different forms presented to us. Most of these, fortunately, required only about seven items to be answered. However, some required up to fifteen items to be answered. It is difficult for secretarial help to understand the various implications and get the proper answers down. With all of us, our secretaries do most of the work and we check and sign the forms. We are troubled with repetitious filing. We have some patients who come in with the same form of seven or ten items that supposedly have to be answered every week because the patient is still convalescing and out of work. It's rather ridiculous. Every now and then we rebel and decide that we are just not going to answer. We'll sign our name to it to indicate that the patient is still out and let the rest go because the answers are really the same. We really don't have the time to look them up again.

One of the items that touches on comments from Dr. Pressman and Dr. Larson

is the fact that most of these forms are single sheets, two sides, part for the employer, part for the doctor, part for the hospital, and a part for the patient to fill out. The patient usually ends up hand-carrying this around because if he doesn't, it becomes lost in the bureaucracy of our hospitals. And, of course, he sees diagnoses and everything else that goes into it. Of course, one way to keep the patient from getting undesirable information about his diagnosis and other things is not to give him that part of the form. And although this type of an arrangement in printing may be more economical, I would think that some separate forms might be devised that also might help in promptness of filing, because I can't work on a form if the hospital has it and vice versa.

I would like to suggest further work on uniform forms. Trying to get agreement on one standard form would be highly desirable for all of us, a form that would require the transference of routine information the least number of times. Is it necessary to put down age to help in identifying a patient if there happen to be two members of a family? I suppose we have to get back to using numbers to identify people, and I suppose that some items of this sort might be the simplest solution provided that we have to continue filling out forms in this fashion.

I would like to suggest that there be a central cooperative center based on a computer, using an identity card such as the various charge services issue, that not only would store data but would identify the individual directly from the card. It could be done by a machine and transcription would not be necessary. A telephone service could telephone in the information; coding could be done immediately from the office. You could get immediate verification in all instances whether this particular person is covered for this field or whether this particular person is not covered and whether the insurance is applicable. One of the major problems to be worked out with this sort of system is how to maintain the confidentiality of the information. But with the complexity that we seem to be moving into, I don't think there is any question that ultimately this is the type of operation that is needed. Obviously if we are going to maintain our private enterprise in providing health care, we have to be able to compete with a centralized organization and unless we, the physicians, and all of the insurance companies band together, I don't see how we can provide as inexpensive care as some other large central agent.

I once sat down to lunch with the negotiator for Canadian Steel Unions. We were talking about this problem, and I said, "Why are you so much in favor of governmental health insurance?" He said, "Why, this is big business. We must know ahead of time how much it is going to cost our members so that we can negotiate properly in our contracts. We have to have one central agent to deal with; we can't be dealing with half a dozen. Do you know any other organization that is big enough, hires enough people and has enough prestige to provide this?" A pretty tough question to answer when we have our health care fragmented the way it is. I think we must get together.

(*Dr. Larson*) Thank you very much, Dr. Tyson. I think we are all intrigued, in this age of cybernetics, with the use of a computer. In Hartford, we have been checking into how this can be done. IBM is doing this in their clinical decision support system to a certain degree. Of course, all we're talking about is gathering information, and that's exactly what a computer can do. Perhaps someday all vital statistics will be on a computer. I'm not so sure that I want this, but maybe we won't have much of a decision as to whether or not we will be on a computer.

(*Dr. Reiter*) There have been some very significant questions posed here today. I

would like to be firm and state that we too realize the difficulties involved with health insurance forms. Dr. Larson has been one of the members who has been very active, as have many of the other men here at one time or another. In this form situation, the Health Insurance Council has done a rather massive job, as Dr. Larson mentioned briefly, to solve the problem. The Council has combined its efforts with various committees within the AMA and other insurance claims and health associations. The answers are not all here yet. We know that. But I think we have made strides.

I was on a committee which put together and recommended the standard life insurance form (Figure 1) for general use. Already, companies are starting to use it or an identical one, except for minor changes. You have heard mentioned that there are some 1,700 life insurance companies in the industry. Perhaps the top 50 or 100 do most of the business throughout the country. Every time that somebody tries to coordinate or put together a common form which will be used by many companies, the easier it becomes for the physician to do the job. I will not go into great detail on this except to say that this form was designed to simplify the physician's reporting of a medical history.

Dr. Pepper has done an excellent job in discussing the relationships between clinical medicine and life insurance medicine. Gentlemen, you must realize that we too have the assignment to obtain a certain amount of information so that decisions and determinations can be made intelligently.

Regarding the attending physician's statement, Dr. Pressman asked a specific question: how does one fill it out? Figure 2 is a standardized attending physician's statement form which many companies are using. Dr. Larson and I spoke about this very briefly. I don't know whether I can make an accurate estimate, but perhaps 90% of the life companies are using this standardized attending physician's statement form. I think we could take a lot of time to try to answer how the physician should fill it out. We are *not* asking him to make a determination as to this man's insurability. The applicant typically does not know the details of his medical history and may not recall that he had some medical care. We are interested in a *summary of the pertinent points.* For a general complete physical examination, we don't expect a complete run-down of all of the facts and figures. A summary of the positive findings, diagnosis and treatment would suffice. Each company represented in this room and perhaps throughout the country may have somewhat different requirements within its own organization as to how it would interpret the statement, but basically we are looking for a simple summary of the medical history.

Other forms cause the greater difficulty for the clinician. Dr. Larson and Dr. Tyson mentioned the combined form recommended by the Health Insurance Council and the AMA. This is a more recent coalition of the reporting of the claims, be they major medical or disability income type claims. The aim of the Health Insurance Council and the AMA organizations that worked with the insurance industry was to produce a form which would be simple and better than the one which we had. I dare say that this might be simplified further if we kept working. This appears to satisfy better the increasing use of electronic data processing in business accounting. In this all-purpose *Comb 1* (Figure 3), the components possibly could be made more responsive to changing attitudes of the medical profession. We are still working to find better ways to solve the physician's problem of coping with seven to nine different forms in one day.

I'd like to ask Dr. Larson whether the physician has the election, of using and returning the HIC approved form?

TO THE BLANK LIFE INSURANCE COMPANY

Proposed Insured ..... (First name, Middle initial, Last name) | Birth Date: (Month, Day, Year)

1. a. Name and address of your personal physician? *(If none, so state)*
   b. Date and reason last consulted?
   c. What treatment was given or medication prescribed?

	Yes	No
2. Have you ever been treated for or ever had any known indication of:		
a. Disorder of eyes, ears, nose, or throat?	☐	☐
b. Dizziness, fainting, convulsions, headache; speech defect, paralysis or stroke; mental or nervous disorder?	☐	☐
c. Shortness of breath, persistent hoarseness or cough, blood spitting; bronchitis, pleurisy, asthma, emphysema, tuberculosis or chronic respiratory disorder?	☐	☐
d. Chest pain, palpitation, high blood pressure, rheumatic fever, heart murmur, heart attack or other disorder of the heart or blood vessels?	☐	☐
e. Jaundice, intestinal bleeding; ulcer, hernia, appendicitis, colitis, diverticulitis, hemorrhoids, recurrent indigestion, or other disorder of the stomach, intestines, liver or gallbladder?	☐	☐
f. Sugar, albumin, blood or pus in urine; venereal disease; stone or other disorder of kidney, bladder, prostate or reproductive organs?	☐	☐
g. Diabetes; thyroid or other endocrine disorders?	☐	☐
h. Neuritis, sciatica, rheumatism, arthritis, gout, or disorder of the muscles or bones, including the spine, back, or joints?	☐	☐
i. Deformity, lameness or amputation?	☐	☐
j. Disorder of skin, lymph glands, cyst, tumor, or cancer?	☐	☐
k. Allergies; anemia or other disorder of the blood?	☐	☐
l. Excessive use of alcohol, tobacco, or any habit-forming drugs?	☐	☐
3. Are you now under observation or taking treatment?	☐	☐
4. Have you had any change in weight in the past year?	☐	☐
5. *Other than above*, have you within the past 5 years:		
a. Had any mental or physical disorder not listed above?	☐	☐
b. Had a checkup, consultation, illness, injury, surgery?	☐	☐
c. Been a patient in a hospital, clinic, sanatorium, or other medical facility?	☐	☐
d. Had electrocardiogram, X-ray, other diagnostic test?	☐	☐
e. Been advised to have any diagnostic test, hospitalization, or surgery which was not completed?	☐	☐
6. Have you ever had military service deferment, rejection or discharge because of a physical or mental condition?	☐	☐
7. Have you ever requested or received a pension, benefits, or payment because of an injury, sickness or disability?	☐	☐
8. Family History: Tuberculosis, diabetes, cancer, high blood pressure, heart or kidney disease, mental illness or suicide?	☐	☐

DETAILS of "Yes" answers. (IDENTIFY QUESTION NUMBER, CIRCLE APPLICABLE ITEMS: Include diagnoses, dates, duration and names and addresses of all attending physicians and medical facilities.)

	Age if Living?	Cause of Death?	Age at Death?
Father			
Mother			
Brothers and Sisters No. Living No. Dead			

9. Females only:	Yes	No
a. Have you ever had any disorder of menstruation, pregnancy or of the female organs or breasts?	☐	☐
b. To the best of your knowledge and belief are you now pregnant?	☐	☐

(THIS SPACE FOR INDIVIDUAL COMPANY USE)

FIG. 1. The standard life insurance form.

Dates attended Month	Year	Complaints and abnormal physical findings	Duration of illness	Diagnosis	Describe treatment or operation

2 Laboratory Findings (including x-ray, ECG, BMR and pathological reports, etc. with dates)

3 Present condition, if known? (include sequelae and complications of above reported illnesses)

4 Have any other physicians or surgeons been consulted? If so, please give name, date, and nature of disorder.

5 Please record any other information which might have a bearing on this person's health.

Form approved by Council on Medical Service AMA, Dec. 1959

THIS FORM MUST BE SENT DIRECTLY TO THE HOME OFFICE

Date.....(Signature).....M. D.

FIG. 2. The standardized attending physician's statement form.

(*Dr. Larson*) He does. One of the things that we advocate is that if you get a case such as the one you were describing with nine different forms, it is perfectly acceptable to utilize the *Comb 1* form for all nine. Another question that has come up here is the question of payments. It has been stated by the American Medical Association, as a matter of policy, if I'm not wrong, Dr. Dorman, that no payment shall be made for the first completion of a claim form. The government is not going to pay for it, and the insurance industry is not going to pay for it. Now if additional information is needed to evaluate the case, then frequently we do pay for that additional information, especially if the doctor requests it. It has been a policy of our Association that there should be a reasonable payment made for information requested for underwriting purposes. I might mention in regard to attending physician's statements (which the agents hate, I think, more than you do) the fact that some companies are utilizing a 24-hour, seven-day-a-week telephone service which allows you to pick up the telephone any place in the United States and call this information in and dictate it on a tape such as we are using here.

There is a commercial which sells some kind of new cigarettes which says, "You've come a long way, baby!" I think we have come a long way, but we haven't gone all the way. We think we have to continuously work, and the committees are continuously working, on this matter of forms. We want them to be as simple as possible but you must realize that we have to have certain proofs in order to pay out policyholders' money. We try to keep the matter as simple as possible. The points that both

HEALTH INSURANCE CLAIM – GROUP OR INDIVIDUAL COBB 1 (10-67)

PART A TO BE COMPLETED BY PATIENT (INSURED)

Spaced for Typewriter — Marks for Tabulator Appear on this Line

PATIENT'S NAME AND ADDRESS | DATE OF BIRTH

INSURED'S NAME IF PATIENT IS A DEPENDENT

NAME OF INSURANCE COMPANY | POLICY NUMBER | INSURED'S SOCIAL SECURITY NUMBER

IF GROUP INSURANCE, NAME OF POLICYHOLDER *(i.e. Employer, Union or Association through whom insured)*

AUTHORIZATION TO PAY BENEFITS TO PHYSICIAN: I hereby authorize payment directly to the undersigned Physician of the Surgical and/or Medical benefits, if any, otherwise payable to me for his services as described below but not to exceed the reasonable and customary charge for those services.

SIGNED (INSURED PERSON)

DATE

AUTHORIZATION TO RELEASE INFORMATION: I hereby authorize the undersigned Physician to release any information acquired in the course of my examination or treatment.

SIGNED (PATIENT, OR PARENT IF MINOR)

DATE

PART B ATTENDING PHYSICIAN'S STATEMENT

1. DIAGNOSIS AND CONCURRENT CONDITIONS
(IF DIAGNOSIS CODE OTHER THAN ICDA* USED, GIVE NAME):

2. IS CONDITION DUE TO INJURY OR SICKNESS ARISING OUT OF PATIENT'S EMPLOYMENT? YES ☐ NO ☐ PREGNANCY? YES ☐ NO ☐ IF YES, APPROXIMATE DATE PREGNANCY COMMENCED. DATE

3. REPORT OF SERVICES (OR ATTACH ITEMIZED BILL) (IF PREVIOUS FORM SUBMITTED TO THIS CARRIER, YOU NEED SHOW ONLY DATES AND SERVICES SINCE LAST REPORT)

DATE OF SERVICES	PLACE OF SERVICES†	DESCRIPTION OF SURGICAL OR MEDICAL SERVICES RENDERED	PROCEDURE CODE – IF USED (IF CODE OTHER THAN CPT** USED, GIVE NAME)	CHARGES

†O—Doctor's Office I H—Inpatient Hospital NH—Nursing Home
H—Patient's Home OH—Outpatient Hospital OL—Other Locations

*ICDA—International Classification of Diseases

**CPT—Current Procedural Terminology (current edition)

TOTAL CHARGES ▶ $

AMOUNT PAID ▶ $

BALANCE DUE ▶ $

4. DATE SYMPTOMS FIRST APPEARED OR ACCIDENT HAPPENED.

5. DATE PATIENT FIRST CONSULTED YOU FOR THIS CONDITION.

6. PATIENT EVER HAD SAME OR SIMILAR CONDITION? YES ☐ NO ☐ IF "YES" WHEN AND DESCRIBE:

7. PATIENT STILL UNDER YOUR CARE FOR THIS CONDITION? YES ☐ NO ☐

8. PATIENT WAS CONTINUOUSLY TOTALLY DISABLED (UNABLE TO WORK). FROM THRU

9. PATIENT WAS PARTIALLY DISABLED. FROM THRU

10. IF STILL DISABLED, DATE PATIENT SHOULD BE ABLE TO RETURN TO WORK.

11. PATIENT WAS HOUSE CONFINED. FROM – THRU

12. DOES PATIENT HAVE OTHER HEALTH COVERAGE? YES ☐ NO ☐ IF "YES" PLEASE IDENTIFY

13. I DO NOT ACCEPT ASSIGNMENT. ☐

DATE | PHYSICIAN'S NAME (PRINT) | SIGNATURE | DEGREE | TELEPHONE

STREET ADDRESS | CITY OR TOWN | STATE OR PROVINCE | ZIP CODE

MEMORANDUM REGARDING DISPOSITION OF THIS FORM ON REVERSE SIDE

Approved by Council on Medical Service, AMA 10-67

FIG. 3. The all-purpose *Comb-1* health insurance claim form.

Dr. Tyson and Dr. Pressman made were excellent ones, and I can sympathize with them. Now, as far as the workmen's compensation forms are concerned, that is a question of state regulation where the insurance industry actually doesn't have any control.

As I have said, we will continue to look into this question and make this irritant a little less all the time.

(*Dr. Simmons*) Thank you very much, gentlemen, for this information and discussion of these problems. It is obvious that we don't have all of them solved at this point, but there have been some suggestions made this morning that are appropriate and which will help point us in the right direction. Things are getting done and we are making definite progress.

A Look at Automation

(*Dr. Simmons*) The final speaker is Dr. Arthur E. Brown. Dr. Brown was born on February 25, 1918, in Harrisburg, Pennsylvania. He received his A.B. degree at Harvard and his M.D. at Temple University School of Medicine in 1943. Following an internship at Philadelphia General Hospital, he served in the Medical Corps of the U. S. Army from 1944 to 1946, leaving the army as a major. His tour of duty included service as Chief of X-ray Service for a number of general hospitals serving Iwo Jima, Saipan, Tinean and Guam.

Dr. Brown practiced internal medicine in Harrisburg from 1949 to 1956 when he joined the Medical Department of The New England Mutual Life Insurance Company as Assistant Medical Director. He has successively been Associate Medical Director, Medical Director and, since 1968, Vice President and Medical Director.

In addition to his duties at The New England Life, he has continued activity in clinical medicine and is Clinical Associate in Medicine at the Massachusetts General Hospital in Boston.

Dr. Brown is a Diplomate of the American Board of Internal Medicine and a Fellow of the American College of Physicians, the American College of Chest Physicians and the American College of Cardiology. He is a Senior Member of the American Federation for Clinical Research and a member of the American Society of Internal Medicine and the Board of Life Insurance Medicine. He is a member of the Massachusetts State Health Committee and the Medical Relations Subcommittee of the Health Insurance Council. Among numerous other affiliations and honors, he is Secretary of the Association of Life Insurance Medical Directors of America and a member of the Executive Committee of the Medical Information Bureau where he serves also as a member of the Subcommittee on Health Insurance and Electronic Conversion.

He has been spending a great deal of time during the past year studying automation and is eminently qualified to give us this morning "A Look at Automation."

(*Dr. Brown*) Let me mention those subjects which will *not* be discussed today. Certainly I have no intention of discussing the fundamentals of computer science although I would quickly add that such a course as the one given by the American College of Physicians at Madison, Wisconsin, on "Computers in Medicine" was an excellent one and probably only the first of many similar courses yet to come. In spite of the fact that there would appear to be a definite relation to mortality, today we will not discuss the purely clinical use of computers in the practice of medicine, for example, the computer in the clinical laboratories, patient monitoring, the control of multiple physiological functions by the computer, hospital administration, doctors' order activity in a hospi-

tal, computers in medical education, or computers in clinical research. In all of these fields, the computer has already proved its worth. Much needs to be done, particularly in relation to the software and the expense, but this is no longer simply a dream of the "blue sky" area.

If one goes to the National Library of Medicine in Bethesda to research through MEDLARS the subject of "computers in medicine," one finds 327 articles cited from mid-1964 to December 1967. This gives you some indication of the increasing activity in this field.

However, since the over-all subject today is a survey for the practicing physician of what really is taking place in life and health insurance at the present time, perhaps it's best to start by telling you a little more of our Association of Life Insurance Medical Directors, at least the part of it that is germane to this discussion.

We have a number of committees. One of these is a committee that has changed with the times. It formerly had to do with underwriting procedures, then laboratory procedures, and then electrocardiographic criteria and problems. In 1968, Dr. John Pearson, the Chairman, divided what is now the Medical Management and Procedures Committee into three subcommittees dealing with 1., the use of para-medical personnel, 2., the use of EDP equipment, and 3., the possibility of industry-wide examiner panels.

The first two of these we might discuss today, and if we have time a few other subjects will be considered.

Dr. Simmons, I believe, was particularly anxious that I discuss the insurance examination situation as it now exists. As you well know, the average practicing physician is so very busy with his own practice that little time is available in his schedule for examining applicants for insurance, let alone for the considerable paper work that needs to be done. Certainly, in the past decade because of this time element, there has been an increasing interest in medical economics and in the management consultant who will advise you as to how best to spend your time in the over-all effort of giving the best possible patient care and at the same time doing it efficiently enough to provide a proper income.

Care of one's patients means care during health, and this includes preventive medicine; in reality, this in turn should embrace the field of insurance medicine, wherein your patient applies for life insurance when there is a real need.

Again our problem is your problem: time. Without going into all the reasons for the many troubles, the facts are that in a good percentage of cases there is difficulty in obtaining an examination. The reactions to this situation are many, and all are an attempt to solve or partially solve this problem.

Non-medical limits have been increased, possibly now as much as can be done, at least in today's economy. Among other reactions can be listed the groups of physicians formed in various ways and covering geographically various areas. Such a group may be run by a physician or lay people, but in either case the idea is an availability factor, that is, prompt response to one phone call and a resulting examination by a physician known to and approved by the medical department of the insurance company.

There is, for example, one such organization in Chicago actually started by two insurance brokers. My last count was to the effect that this particular organization had fourteen different office sites and these people are opening offices in six additional cities. Office hours are by and large from 6 p.m. to 10 p.m. on weekdays and 10 a.m. to 4 p.m. on Saturdays. This particular service guarantees from one phone call an examination by a doctor, and they advertise "immediate service."

On the West Coast there are several

groups of physicians created and directed by physicians. One such group consists of 33 physicians and another of 10. In one group the medical department of the insurance company has the privilege initially of determining which doctors it will accept and those whom it won't.

I have always thought that, instead of being run by a doctor whom we do not know or even by insurance brokers as is the case in at least one instance, this type of operation could be set up in cooperation with a county or state medical society, the housing and other expenses including compensation probably being financed by insurance companies. Possibly this could be combined with a second operation, that of obtaining Attending Physician's Statements—the entire operation under the immediate direction of a physician who is known and respected in the area by his colleagues. Incidentally, I know of one such small operation working through a county medical society in Georgia.

Then there are the so-called para-medical examinations, and this would appear to be the important area in the immediate future. Some of these operations are run by physicians, some by lay individuals and some by investigating companies. In the majority of cases the principle is to do away with the examination in certain age groups and amounts and obtain a history self-administered or taken by a trained assistant. There would also be obtained certain physical findings such as height and weight, blood pressure and pulse all possibly electronically recorded; perhaps also other measurements as a timed vital capacity, electrocardiogram with two, six or twelve leads, a phonocardiogram, blood chemistries using a multi-channel autoanalyzer, urinalysis, chest x-ray or any combination of these. The options would be determined by the age of the applicant and the amount of insurance applied for.

One such organization originating in Kansas City now has eight offices in five different states. This particular organization offers service on an appointment basis from 10 a.m. to 7 p.m. during the week and 8 a.m. to 5 p.m. on Saturdays. They offer 1., completion of their history form, 2., height, weight, chest and waist measurements, blood pressure and notation of any obvious abnormalities, 3., urine for glucose, albumin and occult blood, 4., phonocardiogram of the apical and aortic areas, 5., 12-lead electrocardiogram, 6., SMA-12 chemistry screen and a hemoglobin, 7., timed vital capacity and 8., temperature—all, believe it or not, for $10.00.

This type of thing is becoming big business. Speaking for myself only, I am somewhat disturbed by this mass-production in which we have little control. I am disturbed by the formation of large physician groups and our inability to control the caliber of these men. I am also troubled by the increased problems that are bound to arise with the variants that one sees in doing multiple chemistry screening tests. It might be stated here that certainly there are no good hard facts, and therefore no complete agreement, as to the "yield" and particularly cost/benefit ratio related to these large screening endeavors.

We have always depended heavily on the good practicing doctor, but in all honesty it must be admitted that in a large number of insurance applicants he is much more important in his report to us on his own patient than he is on doing a routine examination for insurance unless there are problems. It is for this reason we are becoming more interested in self-administered histories and also in the "assistant physician" training program at Duke University and other institutions.

How then can we obtain what we feel is necessary for us and at the same time disturb the practicing doctor as little as possible?

As you possibly know, the studies done on Attending Physician's Statements show that financially we cannot afford in most instances to request fewer statements. However, it seems to me we can proceed along well-controlled para-medical lines.

In addition to those we have mentioned, I believe, it won't be long until our history-taking is indeed automated. You are aware first of the Cornell Medical Index and Dr. Collen's work at the Oakland Kaiser Permanente Group. Then comes Dr. Slack's work on a computer-based history and physical examination and also Dr. Octo Barnett's at the Massachusetts General Hospital and Dr. Mayne's at the Mayo Clinic. Possibly there are about eight groups over the country working on this.

Although most insurance companies have computers, and I suppose the majority of the larger ones third generation computers, we still have a way to go with respect to terminal devices. Certainly local agency offices will have them in the not too distant future; a few already do. On the other hand, doctors' offices don't, but again with regionalization I suspect in rural and semi-rural areas this will come. It has been predicted that within the next five years automated medical histories should be available to every physician and health care facility. Service bureaus will provide remote computer terminal service much as the telephone company does today. And in this area it should be mentioned that the interface of man and machine and also the computer's ability to respond rapidly and appropriately are of great importance. However, since we do business over such a wide geographic area, this problem of terminals is one of our difficulties.

With respect to electrocardiograms, we can certainly transmit those which our examiners take, but this is only a small percentage of all the electrocardiograms we see. The majority are loans from the practicing physician, and as yet we have no good optical scanning device. Indeed in most computer processing the chief limiting factor is inadequate input techniques. Here in Philadelphia, Baird and Garfunkel noted that the two big problems of input and cost loomed so large that their program was halted.

At this point you might be interested in what one company is doing. Since 1954 we have been coding in great detail the electrocardiograms received by us. On the same card with this electrocardiographic code there are also coded other factors (Figures 4 and 5).

Mortality studies can be done, and the possibility certainly exists that some day the electrocardiogram can be underwritten as well as received on our computers much the way a computer diagnosis of an electrocardiogram is accomplished today but going one step further.

I would like to say just a word more about this ECG program, for to my knowledge it is the most detailed long-term study in existence that correlates ECG, clinical and insurance data with the mortality of life insurance applicants. This study project was designed in 1954 by Dr. Richard Singer who has continued to guide it through the tempestuous seas of machine problems. Last year Dr. Singer spoke before this group on "Comparative Mortality and Survival Data by Medical Impairment," a study sponsored by the Association of Life Insurance Medical Directors. At this moment many man-hours and a moderate amount of money are being spent converting 30,000 ECG cards; this is one of the many problems one faces when one works with machines.

Nevertheless, it seems to me the insurance industry is in a unique position to do long-term studies. For example, in our Bundle Branch Block Study of ECG study cards of exposure from 1950 to 1965, only 5 of 971 entrants could not be traced.

ECG STUDY CARD

FRONT

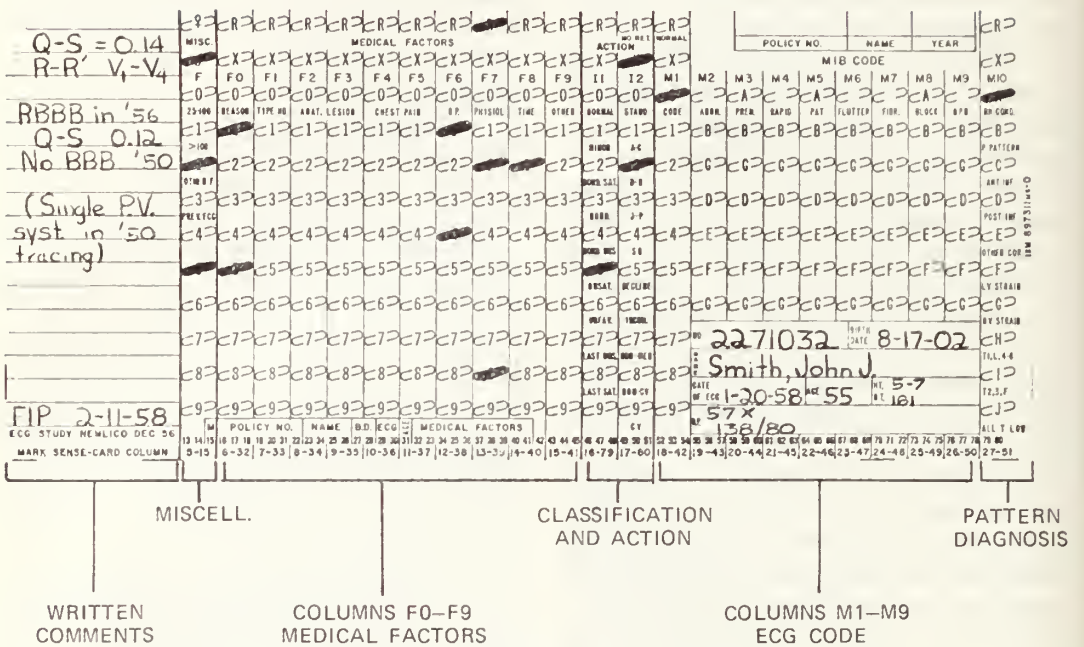

FIG. 4. Electrocardiographic findings coded on a computer card.

Other companies are doing excellent studies in other areas.

Much helpful information can be gleaned from these studies, and once the industry stabilizes somewhat with respect to machines and the data base becomes more readily available there will be more information to be obtained.

To pursue the computer just a little further, in our business several companies are already under way in what might be termed "Electronic Pre-Underwriting and Underwriting." This system will relieve underwriting people of tedious and repetitive jobs in the processing of policy applications testing them within a program and sorting out for an underwriter those applications which are found to be outside its rules or limits. This type of procedure is just now in its infancy; it has a long and bright future although the early days in this venture will be filled with problems. In such realms as payment of medical examiner fees the same problems exist, but we are farther along in solving them. This is more of a bookkeeping function and more easily handled by the programmer and the computer. However, when mistakes are made they are, as you know, "really good ones" and then come the public relations problems.

And so it would appear that some day in the not too distant future our field of insurance medicine as it applies to life insurance will look something like this:

An insurance agent will call on a client whose name he probably obtains from a machine programmed to certain markets. The agent will then obtain certain facts and proceed to feed these into a computer to produce what might be referred to as "electronic coordinated estates," a program

ECG STUDY CARD

BACK

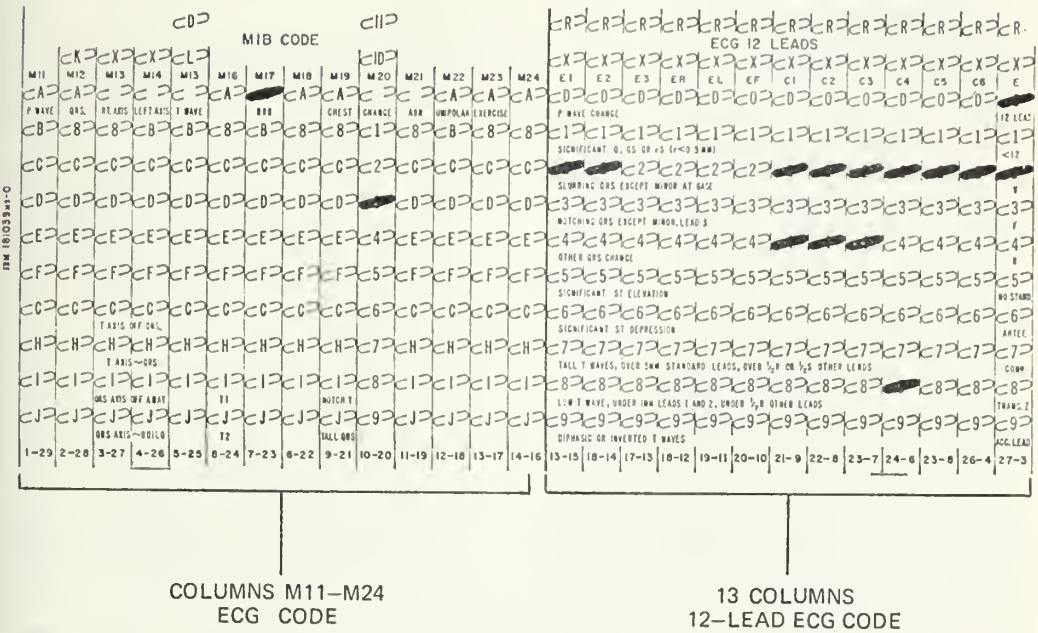

FIG. 5. ECG findings coded on a computer card (back).

which will give you in hard copy a printout of this client's requirements not only for life insurance but also for capital creation and accumulation.

At this point with the help of paramedical personnel and automated laboratory equipment some type of computer-based history and physical examination will be performed with the practicing physician stepping in on problem cases. All fees will be paid out from the Home Office by the computer. And then the policy will be electronically underwritten and spewed out untouched by human hands except for that small percentage in which there are medical or nonmedical problems that the computer is not programmed to handle.

After this policy is issued, your agent then, in hard copy form or on the visual display terminal in his agency, can obtain at a moment's notice the status of this policy. And so now before this is all an accomplished fact, we think about what else the future holds, and then about such things as the rights of the individual and invasion of privacy.

(*Dr. Simmons*) Thank you very much. You have had the difficult assignment of being "anchor man," and I appreciate the fine way in which you have made your presentation.

Thank you all for coming. The meeting is adjourned.

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Metabolic Bone Disease—Facts and Fancy[1]

By ERNEST E. AEGERTER, M.D.[2]

IT is impossible to talk very long about metabolic bone disease without discussing its most common and most important component, osteoporosis. It is equally patent that any discussion of osteoporosis must concern itself with its three etiologic types: osteomalacia, osteolysis and osteopenia. It would be well at the outset to define these somewhat confusing terms.

We have all heard the radiologist use the term *osteoporosis* to designate a localized area of decreased radiodensity. Such usage is confusing, particularly since the physiologist and the pathologist frequently use it to infer a subnormal rate of osteoid formation. The term osteoporosis should be used as the internist uses it, to designate a specific, systemic symptom complex, the commonest to affect the human skeleton, one which usually occurs after fifty and which is much more common in women. It often manifests itself at the outset by back pain, and loss of vertebral substance results in a characteristic radiogram. In more extreme cases, severe kyphosis may develop. Osteoporosis is the underlying cause of most fractures of the hip in the senile, and I venture to say after arthritis it is the most important disabling disease in our senior citizenry.

The term osteomalacia should be used to designate that form of generalized skeletal disease which results from a subnormal availability of calcium or of phosphorous to provide the salt necessary to mineralize the organic matrix of bone, osteoid. In the mature skeleton, it is properly called osteomalacia. In the growing skeleton, it is called rickets. If this salt deficiency in rickets is due to an inability of the kidneys to conserve calcium or to conserve phosphorous, it is called renal rickets. When renal rickets is caused by a specific calcium ion loss, and this occurs most often when both the glomeruli and the tubules are affected because of a congenital nephroanomaly such as polycystic kidneys, less often to an acquired glomerulonephritis, the proper term is renal osteodystrophy. When the renal rickets is due to a congenital inability to conserve phosphorous by the renal tubules, the term hypophosphatemic rickets is now used. In the recent past, this was known as Vitamin D refractory rickets, and before that the Fanconi syndrome. Thus the term renal rickets may mean either the calcium deficient renal osteodystrophy or the phosphate deficient hypophosphatemic rickets.

Incipient or latent osteomalacia is usually called Milkman's syndrome. When Milkman published his definitive paper in 1934 (1), he thought that he was describing a new clinico-pathologic entity. Later, Fuller Albright (2) recognized this case as one of mild and latent osteomalacia. In Milkman's syndrome there are one or more painful fractures, or, better, pseudofractures, without trauma or malalignment. Most cases of osteomalacia are the result of an occult hypophosphatemic rickets undiagnosed throughout childhood.

The term osteolysis should be used to designate the abnormalities of deossification brought about by an excessive rate in absorption of bone. For nearly a half century we believed that it was always produced by hyperparathyroidism. Now we know that a rare, and therefore unimportant, cause is hypervitaminosis D. Later I shall mention the possibility of a third

[1] Thomas Dent Mütter Lecture LXXX, The College of Physicians of Philadelphia, 8 January 1969.

[2] Professor of Pathology, Temple University School of Medicine, Philadelphia, Pennsylvania 19140.

mechanism of osteolysis, a mechanism that is still unproven.

Finally, I like to use the term osteopenia to designate a reduction in bone mass because of an inability to elaborate sufficient osteoid to support skeletal growth in youth or to balance physiologic erosion in maturity (3, 4). Its purest form is seen in the congenital skeletal dysplasia, osteogenesis imperfecta. Scurvy is a good example of a dietary deficiency type of osteopenia. Osteopenia in the adult skeleton is a more obscure expression of a negative osteoid balance, often of unknown etiology.

Now we have defined osteoporosis as a clinical symptom complex. Osteomalacia is a pathologic entity caused by an inability to adequately mineralize osteoid; osteolysis is a pathologic entity, a negative osteoid balance due to excessive bone resorption, and osteopenia a negative osteoid balance caused by an inhibition of osteoid formation. Now let us turn our attention to a review of the pertinent features, some fact and some fancy, concerning the pathogenesis of these three important types of metabolic bone disease.

In regard to osteomalacia, the facts in most instances are more evident than the fancy. Most cases of simple childhood rickets in this country are caused by a dietary deficiency in vitamin D with inadequate absorption of calcium through the gut wall. The classical radiograph of rickets reveals widening, cupping, spreading, and spurring in the metaphyseal area. These changes are due to the replacement of normal rigid bone with irregular masses of osteoid and chondroid which are intermixed without adequate mineralization. Failure of calcium absorption due to intestinal diseases, such as steatorrhea, fibrocystic disease of the pancreas, or congenital bile duct atresia, is much less common though no less real. Rickets, or osteomalacia, depending upon the age of young women who place an extraordinary demand on their calcium stores by multiple rapidly repeated pregnancies and prolonged lactation probably occurs, but in our experience only in cases in which dietary calcium is in jeopardy.

Renal osteodystrophy has now been adequately recorded and amply corroborated in the recent literature (Fig. 1). In this disease, the kidney in chronic uremics wastes calcium. The reason for this profligate spending of the precious calcium ion is not completely understood, but we presume it to be an abnormal utilization of all available basic cations including those of calcium in an attempt to neutralize the acidosis of a chronic uremia which is sufficient to inhibit ammonia synthesis but not severe enough to kill the patient for a number of years (2). A continuous withdrawal of calcium ions from the blood stimulates the parathyroids and eventually causes secondary hyperparathyroidism (Fig. 2). The radiogram does not differentiate the various types of rickets, nor can the microscopist, since the sections reveal the same histopathologic alterations in renal osteodystrophy as those found in ordinary rickets.

Hypophosphatemic rickets (Fig. 3) is in reality a group of diseases based on a variety of congenital enzymatic defects, probably seated in the kidney tubule lining cells. Frazer divided these conditions into six subtypes, depending upon the related metabolic defect, but in all there is an inability to reabsorb phosphates from the glomerular filtrate inducing a phosphorous deficiency rickets. Massive doses of vitamin D may reverse this process in three of these types, hence the name vitamin D refractory rickets, though the site of action of this drug, whether gut wall or renal tubule, is still undetermined. There has been much speculation concerning the nature of this functional defect. Elongated, swan-neck of the proximal convoluted tubules, peritubular inflammatory reaction with fibrosis and a host of other lesions

FIG. 1. Renal osteodystrophy. Kidney disease results in a utilization of calcium ions needed for mineralization of osteoid. Failure of rigidification results in dramatic skeletal distortion.

FIG. 2. The skull in advanced secondary hyperparathyroidism. The "snow-storm" granularity is the same as that found in parathyroid adenoma.

have been reported, but at present it is widely believed that there is no consistent structural alteration.

Though it is rare, we should mention a fourth type of rickets in this discussion. It is called hypophosphatasia or, better, hypophosphatasemia, because there is a disappearance of the alkaline phosphatase from the blood and from the cells where it is normally found (Fig. 4). Though phosphorylethanolamine is found in the urine and though this substance is a substrate for alkaline phosphatase in the test tube, it probably does not enter into the pathogenesis of the disease and may be only a by-product since it is hydrolized at a normal rate when injected into the patient with hypophosphatasemia.

A few years ago a new hormone was described by Copp (5). It is now called thyrocalcitonin because it appears within and may be elaborated by the acinar cells of the thyroid (6) rather than the parathyroid as originally proposed. Its activity is apparently concerned with the deposition of mineral in osteoid, reducing the serum calcium level. Its action appears to be the precise antithesis of parathormone which of course mobilizes mineral from bone to cause a rise in the serum calcium. Though as yet there is no data to support it, it is tempting to associate this hormone, or rather its lack, with the pathogenesis of hypophosphatasemia.

In Milkman's syndrome, the full-blown fracture appears as a broad radiolucent line which may cross the entire width of the shaft (Fig. 5). In earlier cases the lesion may be just as painful though much less obvious. In essence, these lesions represent an inability to mineralize, that is, to rigidify, the osteoid that is produced to

FIG. 3. Hypophosphatemic rickets. This phosphorous deficiency type of rickets produces pseudofractures like those of Milkman's syndrome (see Fig. 5). Both femurs are involved in this patient.

replace the bone lost by physiologic erosion. Naturally it is seen best at points of stress where bone turnover is most active. In more advanced cases, frank fracture occurs and eventually this lack of rigidification may produce skeletal damage of grotesque proportion.

The pathogenesis of osteolysis is not as clear as that of most cases of osteomalacia. But we know that parathormone increases the number of osteoclasts and that bone resorption is accomplished through their action (7, 8). We are handicapped in this area because as yet we have no practical

Fig. 4. Hypophosphatasemia. In this disease, mineral salt is available but there is failure of deposition in osteoid. This phenomenon suggests the possibility of failure of thyrocalcitonin activity.

means of measuring the serum parathormone level. We do know, however, that parathormone has at least two sites of action. It acts directly upon bone to cause deossification mediated by osteoclastic activity. But it also acts upon the kidneys to inhibit phosphate reabsorption from the glomerular filtrate and thus causes a phosphorous diuresis. Hyperparathyroidism is characterized by a high serum calcium level and the diagnosis should rarely if ever be made in its absence. Diagnosis can frequently be made by examination of the X-ray. The "snow-storm" skull is one of the few pathognomonic findings in all radiography. The lacy cortices of the phalanges are less trustworthy and the loss of the lamina dura is to be regarded as only helpful at best.

In severe and prolonged hyperparathy-

Fig. 5. Milkman's syndrome. Wide radiolucent bands appear at stress points. These are pseudofractures, loss of rigid bone and replacement by unmineralized osteoid. Since the latter is flexible though tough, bending occurs without malalignment.

roidism, the skeleton is weakened at stress points to cause dramatic distortion. The cortex virtually disappears and the marrow is replaced by a fibrosing process, hence, the name osteitis fibrosa. Simultaneous osteoblastic and osteoclastic activity of this degree are seen in no other diffuse skeletal disease with the possible exception of Paget's.

Circumscribed areas of massive bone destruction, brown tumors, occur in very late hyperparathyroidism. It is my belief, a belief shared as far as I know, by no one of my acquaintance, that these so-called brown tumors are caused by intraosseous hemorrhage due to a structural weakening because of osteoclastic activity and multiple infractions. The presence of numerous giant cells, which I believe to be osteoclasts, in these so-called tumors causes these lesions to be frequently misdiagnosed giant cell tumors of bone (9, 10).

Nephrocalcinosis occurs because of the high calcium and phosphorous ion levels in the fluids which perfuse the kidney. About five percent of all renal stones are said to be caused by this condition.

Clear cell hyperplasia, or as it is now more commonly called, primary parathyroid hyperplasia, was described by Mallory and Castleman in 1935 (11). Though a description of this condition is carried in every textbook of pathology and in most of internal medicine, it probably does not exist as a clinico-pathologic entity. Since parathyroid adenoma itself is in no sense a neoplasm, but like nodular hyperplasia of the thyroid, an endocrine dysplasia, primary or clear cell hyperplasia is probably nothing more than a more diffuse manifestation of what we have always called parathyroid adenoma. Primary parathyroid hyperplasia cannot be differentiated from parathyroid adenoma by the clinician and the distinction should not be made by the pathologist (12).

The problems of hyperparathyroidism have recently been compounded by the recent introduction of some experimental data suggesting a second mechanism of bone lysis. Reidenberg (13), at Temple, produced a negative calcium balance in fat women on an acaloric diet. He assumed this was due to the acidosis which always occurs under these conditions. He produced the same effect in a patient who was hypoparathyroid, suggesting that the negative balance was independent of the parathyroid glands. The same results had been obtained previously by Lehman and co-workers in two hypoparathyroid patients. Since the urine calcium was greater in amount than could be accounted for on the basis of serum loss, it is assumed that it came from the skeleton stores by the direct action of the acidotic state on bone. Thus, after almost exactly a century of experimentation, hypothesis and argument, we may be proving the validity of von Recklinghausen's original explanation for the bone destruction in some of his cases of osteitis fibrosa cystica.

Finally, the pathogenesis of most cases of osteopenia is largely conjectural. We can only assume that in osteogenesis imperfecta there is a congenital enzymatic defect with failure of maturation of the osteoblasts, resulting in an inability to produce sufficient osteoid to meet the exigencies of stress. The precious little bone that is formed is of woefully shoddy quality.

To synthesize an adequate amount of normal osteoid, the osteoblast must be provided with sufficient amounts of necessary building blocks, amino acids and vitamin C. It must be subjected to a certain level of stress and it can function only in the climate of adequate estrogen and androgen influence.

Scurvy is a type of osteopenia. In some manner as yet undetermined, ascorbic acid is required for the synthesis of the three polypeptide chains which are the components of the collagen fibers of connective tissue and osteoid. Because the calcium-phosphorous ion product is nor-

mal in this disease, the osteoid that is formed is mineralized, and so by contrast it stands out abnormally prominent in the radiogram, giving us the white line of provisional calcification and the characteristic ringed epiphyses. The radiolucent scorbutic zone appears because of the subnormal osteoid production and consequent lack of opaque mineral. Occasionally one will encounter dietary eccentrics who refuse to eat protein. These people may develop osteopenia and it is presumed that they fail to supply their osteoblasts with the required amino acids.

We have had the opportunity of studying a very severe case of osteopenia. Poor in fortune, but rich in pride, this luckless soul attempted to exist on a handful of crackers and a cup of tea daily for months. Eventually her skeleton, ravaged by the relentless progression of physiologic erosion without the capacity to replace lost bone, simply wore out.

More often those who suffer from the malabsorption syndrome or those with severe and prolonged diarrhea may be deprived of these necessary constituents for bone production.

We need only mention the importance of stress in skeletal maintenance. When a fractured limb is immobilized in plaster, an X-ray demonstrable disuse atrophy occurs in from six to eight weeks.

The importance of adequate steroid hormone influence is dramatically illustrated in the patient who has ovarian hypogenesis. Unfortunate women who must undergo surgical castration before the menopause suffer a similar depletion of their skeletons. The cortices are thin; the cancellous bone is almost non-existent.

We have now examined the pathogenesis of osteomalacia, inadequate bone rigidification; of osteolysis, abnormal bone destruction; and osteopenia, inadequate bone restoration. Now let us consider the pathogenesis of the clinical symptom complex, osteoporosis.

All human skeletons, regardless of race, begin to lose bone mass soon after the age of 40 and there is a relentless progression of this loss for the remainder of life at the average rate of 3 percent per decade in males and 8 percent per decade in females. The cause for this reduction in bone mass is obscure. Frost (14) and Jowsey (15), independently and using different techniques, concluded that this loss is due to a speeding up in the rate of bone resorption in the latter half of life. This has been challenged by Hegsted (16) and others and I find their conclusions untenable when applied to all cases on the basis of their published data.

Nordin (17) in England, and Lutwak in this country, have been the most ardent champions of the thesis that a low calcium diet is an important cause of osteoporosis. This quick and easy explanation has been adopted by many others (18, 19, 20, 21, 22), who, however, have failed to provide satisfactory evidence of its truth. Garn and associates (23) and Smith (24), using the more objective methods of measuring metacarpal cortical thickness and relative vertebral density in very large groups of varying ethnic and geographic distribution, have concluded that there is no relation between bone loss and calcium intake. It is now possible to state unequivocally that a dietary deficiency of calcium is not an important cause of senile osteoporosis in this or any other country.

It can also be said with equal emphasis that stress is a proven factor in osteoid elaboration. Cochran and co-workers, among others, have provided convincing evidence that the mechanism is probably through the action of the piezo-electric potentials. Concerning the importance of hormones, there is much clinical and therefore circumstantial evidence but less factual data, though Smith (24) found that relative vertebral density and the amount of axillary hair are consistently statistically related.

Posner, and later others, have shown that mineral is first deposited in osteoid in an amorphous form and the apatite crystal grows as the osteoid matures. The earlier phase is less stable. If fluoride is made available, it will replace a hydroxyl group of the amorphous form, stimulating the growth of the apatite crystal, thus converting an unstable form of osteoid to a stable form of bone. Hegsted (16) found that relatively high levels of fluoride in the water supply significantly reduces the incidence of osteoporosis. In many clinics throughout the country, osteoporotics are treated with 20 to 60 milligrams daily of sodium fluoride over an extended period up to 2 to 3 months. About 50% of these patients attain symptomatic relief.

In review, we may now define osteoporosis as a clinical symptom complex related to a progressive reduction in bone mass caused by osteomalacia, osteolysis or osteopenia. It is probable that a combination of two or perhaps all three of these mechanisms is responsible in most cases. Every effort should be made to properly evaluate the cause or causes in each case since fluoride therapy could hardly be expected to benefit those cases in which osteopenia is the cause, nor hormones in an instance of pure osteolysis. It is probable that in most cases the exact pathogenesis will remain unknown whether one uses X-ray studies, chemical analysis or biopsy. The biopsy is the least valuable of the three methods, notwithstanding several publications to the contrary. We have tried all the reported techniques (26, 27) and found them equally worthless. Practically speaking, in the majority of cases one will be forced to treat them by the standard method of high protein, high vitamin D and C diet, correction of hormone and calcium imbalance, an exercise regimen, and a therapeutic trial with sodium fluoride. So treated, the great majority of cases, if not all, will eventually attain symptomatic relief.

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Memoir of Leighton Francis Appleman 1874 1968*

By WARREN S. REESE, M.D.

IT is my sad duty to record the passing of Leighton Francis Appleman, M.D., at one time my chief at Wills Eye Hospital, and one of the jolliest, best liked, most congenial, unusual and faithful of the Attending Surgeons. To my knowledge, he was the only Attending Surgeon who continued to attend and work in the clinic regularly after attaining emeritus status.

He died in Glenside, Pa., on November 26, 1968, at the age of ninety-four, in a house he had remodeled which was originally an old mill dating back to about 1740.

Dr. Appleman had a varied and interesting career. He was born on Feburary 19, 1874, at Glenside, Pa., on the farm of his maternal grandfather, David Heist.

He received his early education at the Cheltenham Public School, Friends Central High School, and Princeton Preparatory School. He entered Princeton University in 1892, but left in his junior year to matriculate at Jefferson Medical College, from which he was graduated in 1897. His internship was served at the Reading General Hospital, and the following year he opened his office in Philadelphia. Obstetrics was his first interest, but this was short lived, and in 1899 he became associated with Dr. Hobart A. Hare, Professor of Therapeutics at Jefferson, and continued in that department until 1934. Dr. Appleman taught pharmacy at Jefferson. Having been one of his pupils, I can attest to his popularity and interesting manner of teaching. Indeed, I considered him one of the best teachers. I am sure that his students will remember Basham's Mixture, Donovan's Solution and Coxe's Hive Syrup, the latter a "vehicle" for Dr. Appleman's favorite Spoonerism: "Gentlemen, that is not Hive's Coxe Syrup." During this time, he acted as Assistant Editor of Progressive Medicine and carried on an active practice in ophthalmology which he began in 1899 when he was appointed to Dr. Howard F. Hansell's Staff in the Polyclinic, later Graduate Hospital. He was also Clinical Assistant to Dr. George E. deSchweinitz from 1899 to 1902, when the latter was Professor of Ophthalmology at Jefferson. In 1914, he was appointed Associate Professor of Ophthalmology in the University of Pennsylvania Graduate School and lectured on ocular therapeutics.

Dr. Appleman was made Attending Surgeon at Wills Hospital in 1924, serving until his retirement in 1939. He was also Ophthalmologist to the Burd School, Douglas Memorial Hospital, and Consulting Ophthalmologist to Mercy Hospital.

He was a member of the Philadelphia County Medical Society, the Pennsylvania State Medical Society, the American Medical Association, the American Ophthalmological Society, and a Fellow of The College of Physicians of Philadelphia and the American Academy of Ophthalmology and Oto-Laryngology.

He also held membership in the Historical Society of Pennsylvania, the Geographic Society, the Fort Washington Historical Society, the Sons of the Revolution, the Genealogical Society of Pennsylvania, the Episcopal Church and the Episcopal Church Club.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Dr. Appleman was among the first to do intracapsular cataract extractions routinely at Wills Hospital, and he was one of the few, if not the only man, who presented an unusual case in which he had made a mistaken diagnosis before the august College of Physicians.

He is survived by a son, Leighton F. His wife, Anna Hough Parson, passed away on January 21, 1944.

Memoir of Joseph Howard Cloud 1872–1968*

By VICTOR C. VAUGHAN, III, M.D.

JOSEPH Howard Cloud, a member of The College of Physicians of Philadelphia for fifty-eight years, died on April 27, 1968, four days before his ninety-sixth birthday.

Dr. Cloud was born in West Philadelphia, in an area then known as Hestonville, and moved with his family to Ardmore in 1884. After attending Friends Select School, he entered Jefferson Medical College and was graduated with the Class of 1892. He served a year as assistant to Dr. H. M. Neale in Upper Lehigh, Pennsylvania, and then spent eight years in the anthracite coal region as physician for the miners. In 1901, he returned to Ardmore as assistant to Drs. Robert H. Alison and George Gerhard. Later he established his own practice on West Montgomery Avenue, where he remained active until 1947.

Dr. Cloud joined the staff of the Bryn Mawr Hospital in 1906 and became a member of The College of Physicians of Philadelphia in 1910. He served in France with Base Hospital #10 of the Pennsylvania Hospital from 1917 to 1919, holding the rank of major. He was a member of the Montgomery County Medical Society and of the American Medical Association. His addresses and medical publications include a report of a case of chronic tetanus followed by scarlet fever (1893), a report on the mining town and its company doctor (date uncertain), discussion of the Relation of the Physician to Beneficial Societies (1901), a Brief Review of 500 Cases of Labor (1902), an address to the graduating class of the School of Nursing of Bryn Mawr Hospital (1911), a paper on Convalescence, with Special Reference to the Philadelphia Area (1937), and a report on Medicine in the Horse and Buggy Days (Philadelphia Medicine, November 13, 1959). Dr. Cloud regularly made his medical rounds on horseback in mining country and with horse and buggy in the early years of his practice in Ardmore.

Dr. Cloud was a fifth generation descendant of Jeremiah Cloud (who came to America with William Penn in 1682) in a line which included at least two other physicians. His grandfather, Joseph Cloud, was a Revolutionary War soldier. He himself was a birthright member of the Religious Society of Friends.

In 1914, Dr. Cloud married Elisabeth Valentine Perot. Besides Mrs. Cloud, survivors include Mrs. Victor C. Vaughan, III, of Germantown, Laurence P. Cloud, M.D., of Boston, Massachusetts, and three grandchildren.

Dr. Cloud's inquiring quality was a hallmark of a career which spanned the history of modern medicine. (He was thirteen years old when Louis Pasteur immunized Joseph Meister against rabies.) His eagerness and enthusiasm for new information and ideas in medicine and other sciences kept him in attendance at medical gatherings and visiting the observatory at Bryn Mawr College well after his retirement. He will be remembered as a gentle and devoted physician and friend, with aspects of thoughtfulness, simplicity and serenity that gave rich meaning to his Quaker ancestry.

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Memoir of John Arthur Daugherty 1902–1968*

By EDWARD C. RAFFENSPERGER, M.D.

JOHN Arthur Daugherty, M.D., was born August 12, 1902, at Carlisle, Pennsylvania. His early education was in Harrisburg. He was graduated from the University of Pennsylvania in 1924 and from Jefferson Medical College in 1928. After internship and residency training at the Harrisburg Hospital, he remained there as an attending physician until his sudden death at his home on August 28, 1968.

Besides being Chief of Staff of the Harrisburg Hospital just prior to his death, he was also a member of many state and national professional organizations, including the American Diabetic Association, American Heart Association, and the American College of Physicians. He was a delegate to the Pennsylvania Medical Society. He became a member of The College of Physicians of Philadelphia in 1955.

He became a corporate member of the Medical Service Association of Pennsylvania (Blue Shield) in 1944, elected President in 1945, and became Chairman of the Board in 1966. During this time he served one term as President of the National Association of Blue Shield Plans. At the time of his death he was a Director and Chairman of the By-Laws Committee.

His greatest service to organized medicine has been in the area of prepay medical care. He was largely responsible for the steady growth of the Blue Shield Plans, both state and national. It was through his efforts that Blue Shield grew from a "paper" organization to the largest Blue Shield plan in the United States, serving all of Pennsylvania.

He was a tireless worker and a good physician. He will be missed by his many patients and friends as well as by his associates at Blue Shield.

Dr. Daugherty is survived by his wife and three sons, Richard M., Ronald M. and the Reverend Robert M., and also by a sister, Mrs. Clarence E. Ulrich, and a brother, J. Dwight Daugherty, PH.D., of Kutztown, Pennsylvania.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of Matthew S. Ersner 1890–1968*

By DAVID MYERS, M.D.

IT is an honor indeed to write about my chief, "Matt" Ersner. I first met him while a student in the School of Medicine of Temple University. This was in my junior year, 1929. Dr. Ersner had just been appointed Professor of Otology in his alma mater. We were introduced to the subject of otology, and I was associated with him from then until his death.

Matthew S. Ersner came to this country as a child, his family having immigrated from Russia. He worked very hard from early childhood. He often told me of his days as a Western Union messenger boy, as well as his many other jobs.

He had a fine tenor voice and supplemented his income while at school by singing in a choir, in the local churches and synagogues.

In 1912, he was graduated from the Temple University School of Medicine. He then did post-graduate studies in bacteriology and immunology with the late Dr. John Kolmer. Through his association, he began to do studies in middle ear and mastoid infections with the late Dr. George M. Coates. This led him into the study of otology.

The early days in our field in the pre-antibiotic era were days of horrendous complications and heroic surgery because of the serious complications that resulted from mastoid and sinus infections. "Matt" Ersner was superb in his attack on these problems. He was bold and thorough. He accepted the most serious and urgent problems without hesitation, and his technique was magnificent. In the days before the introduction of the high speed electric drills and cutting burrs and the binaural operations microscope, a mastoidectomy was a real challenge. The operation was done with mallet, chisel and gouges. Watching "Matt" at work was like watching a fine sculptor; he was the "Michelangelo of Otology." Later he helped pioneer new techniques, such as the Lempert fenestration operation, and he encouraged work in new fields, such as the field of rhinoplasty and the field of endaural, per-meatal otologic surgery, following the development of Samuel Rosen.

He did a great amount of research work and pioneered many new procedures. His list of publications was tremendous and covered a wide variety of subjects. His writing and study were done late at night, on weekends and holidays. This often was added on to an already tumultuous day which started early and ended late. A typical day would be marked by an early start, a long morning in the office, a quick lunch, an afternoon of surgery, rounds, lectures and teaching. When the day's work in the hospital was completed, numerous house consultations were made (again in pre-antibiotic style), to be followed by a late supper, if he was lucky, and then by emergency operations until late in the night and early morning.

He was a wonderful teacher who spent a great amount of time in instructing his students in all the things he knew. He was very generous in allowing young men to get started in surgery, and he would stand by the operating table patiently while we made our first awkward starts. He was an exciting lecturer and professor. He gave a great deal of himself to students and resi-

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

dents at the Temple University Medical Center. He was very active in alumni affairs and helped build up the Temple University School of Medicine in its earliest days. He was very attached to his alma mater and gave generously of himself. His interests in communal activities were numerous. He was very charitable, served on many committees and was an all-around member of the Philadelphia community.

Over the years, he kept close contact with all of his ex-residents and friends. Many of the young men that he trained later became professors in medical schools throughout the country. Other men are chiefs of service at many hospitals throughout the United States. It would be impossible to name the great number of men who came under his influence. For many years he was Professor and Lecturer at the Graduate School of Medicine of the University of Pennsylvania, and year after year he never missed his weekly lectures, which he prepared each time as though he had never given them before.

He was a wonderful son, father, husband and brother. His family contacts were very close and intimate. The Ersner family gathered about their big brother.

I might dwell upon his great suffering, when he became ill and required an amputation of his leg, and his fight for recovery and rehabilitation. Even then he carried out his office work and care of his patients, although he had great difficulty getting around on an artificial limb.

I could go on and on about the merits of this wonderful man, who made a place for himself in American medicine after having arrived in this country as a poor immigrant boy, who worked his way up to the highest rank in our profession.

May he rest in peace.

Memoir of Archer P. Crosley, Jr. 1920–1968*

By JOHN KAPP CLARK, M.D.

ARCHER P. Crosley, Jr., M.D., was born in Trenton, New Jersey, on October 30, 1920. In 1942, he was graduated from Ursinus College cum laude with departmental honors in biology. In 1945, he was graduated from the University of Pennsylvania School of Medicine, where he was a member of Alpha Omega Alpha, and served an internship at the Hospital of the University of Pennsylvania. Following military service in World War II when he attained the rank of Captain, he returned to the Hospital of the University of Pennsylvania for a residency in Internal Medicine and later joined the Staff of the Renal Section of the Department of Medicine. After a brief tour in the pharmaceutical industry, Dr. Crosley went to the University of Wisconsin where he established a unit for the study of the physiology and pharmacology of the human kidney in health and disease. At Wisconsin, Dr. Crosley was successful in developing the nitrous oxide blood flow method for measurements of the hemodynamics of the human kidney in the anuric state. He also demonstrated in the normal kidney actual values for renal weight in grams by dividing absolute blood flow values obtained by PAH clearances by values obtained by nitrous oxide which, of course, gives blood flow in terms of volume per unit weight.

In addition to his independent work, he collaborated with many other groups in measuring renal function in a variety of clinical situations. In the course of his interest in the kidney, Dr. Crosley came to use known drugs as tools to investigate physiologic phenomena, in addition to his interest in the properties of new therapeutic agents, and as a result of his drug studies, was elected a member of the American Society for Pharmacology and Experimental Therapeutics in 1958. While at Wisconsin, Dr. Crosley was also active in general affairs of the medical school. He was a member of the Executive Committee and Chairman of the Committee on Postgraduate Medical Education, as well as serving as Senior Attending Physician. He was certified by the American Board of Internal Medicine in 1955.

In 1958, Dr. Crosley's interests in clinical pharmacology brought him back to Philadelphia, where he joined the Research and Development Division of Smith Kline and French Laboratories. At the time of his death, he was directing the clinical research at Smith Kline and French's clinical pharmacology units at Presbyterian-University of Pennsylvania Medical Center and the Pennsylvania Hospital. He was also Acting Director of Research at the Research Institute of the Presbyterian-University of Pennsylvania Medical Center, as well as Chief of the Renal and Electrolyte Section and Director of Clinical Investigation. He was Assistant Professor of Medicine in the School of Medicine of the University of Pennsylvania, a consultant in renal disease to Mercy-Douglass Hospital, and medical consultant at Inglis House.

Dr. Crosley was nationally recognized as a leader in clinical pharmacology. He served as a consultant and member of

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special investigative committees for the Food and Drug Administration and the Commission on Drug Safety. He was a member of the ASPET Commitee on Toxic Reaction to Drugs from 1964 to 1965 and was, at his death, a member of the Executive Committee of the Division of Clinical Pharmacology and its Educational and Professional Affairs Subcommittee. In addition to the Pharmacology Society, Dr. Crosley belonged to many other medical and scientific groups. He was a Fellow of the American College of Physicians. He was a member of the Central Society for Clinical Research, the Central Research Club, the American Society for Clinical Investigation, The College of Physicians of Philadelphia, the Physiological Society of Philadelphia, the John Morgan Society of the University of Pennsylvania, and the American Society of Nephrology, among others. He was the author of more than 60 papers in the general topics of renal physiology, clinical medicine and clinical pharmacology.

Throughout his career, Dr. Crosley was well liked and respected by his many colleagues. It was a great pleasure to work with him and try to emulate his cheerful persistence in the face of difficulty. No chore was too difficult or menial for Dr. Crosley to tackle with his characteristic vigor.

In addition, he was a deeply religious man. He was an elder of the Neshaminy-Warwick Presbyterian Church at Hartsville, Pennsylvania, and while at Wisconsin was active in the foundation of the Covenant Presbyterian Church. He is survived by his wife, the former Frances A. Davis, and three children, Mary C., Barbara A. and Archer P., III, and his father, Archer P., Sr. Dr. Crosley lived a short life but managed to pack a great deal of solid achievement into his 47 years. All of us who knew him have profited by so doing.

Memoir of Andrew J. Donnelly 1910–1968*

By PAUL J. GROTZINGER, M.D.

ANDREW J. Donnelly, M.D., was born November 26, 1910, in Philadelphia. He attended Villanova College from 1929 to 1932 and received his M.D. from Temple University School of Medicine in 1936. Following an internship at St. Agnes Hospital from 1936 to 1937, he became chief resident at that hospital until 1939. Starting in 1940, he was acting Assistant Pathologist at the American Oncologic Hospital, except for the time spent at the Lankenau Hospital, where he finished his residency in pathology under the late Dr. Stanley P. Reimann. He became Pathologist to the American Oncologic Hospital in 1943 and held this position until the time of his death. His interest in the study of tumors led quite logically into experimental work at the Institute for Cancer Research, which he joined in 1945, becoming Chairman of the Division of Pathology in 1960. In addition, he held an appointment as Professor of General Pathology at Temple University School of Dentistry. He was a Diplomate of the American Board of Pathology, having been certified in 1944. He was author or co-author of a large number of publications, most of which were concerned with cancer research. He was active in professional societies and held the office of president of the Pennsylvania Association of Clinical Pathologists and of the Philadelphia Pathological Society.

Outside of his professional life, he was an avid sports enthusiast and actively participated in tennis and, more recently, in trap shooting. He was widely read, having a particular interest in dramatic literature and in the theater. At one period in his life he was active in oil painting.

He was married to the former Elizabeth Moran and is survived by her, their two children, Frances and Patricia, a brother, Patrick, a Maryknoll missionary priest stationed in Taiwan, and two sisters, Margaret Donnelly and Sister Marie Thomas, S.S.J.

He died November 7, 1968, of an acute myocardial infarction. He was a man who took great satisfaction from the practice of his chosen profession and from research and teaching.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of Francis Clark Grant 1891–1967*

By ROBERT A. GROFF, M.D.

With the sudden death of Francis Clark Grant, a void occurred in the field of neurosurgery and among his associates, pupils and friends. Dr. Grant spanned the period between the pioneers in neurosurgery to the present well-trained neurosurgeons with their sophisticated techniques. He received his training from the masters—Dr. Charles H. Frazier and Dr. Harvey Cushing—and succeeded Dr. Frazier as Professor and Chairman of the Department of Neurosurgery of the School of Medicine and Hospital of the University of Pennsylvania in 1936. He held this position until 1953 when an untimely accident fractured his hip and right thumb, forcing him to retire three years before the statutory age.

Dr. Grant was born in Philadelphia on November 9, 1891, the son of William S. Grant, Jr., and Jane Burnham Clark. He received his early education in Philadelphia and then entered Groton School at the age of 13. Because he was well-nourished, his fellow classmates gave him the nickname "Chubby," which was adopted by all his friends. He was graduated in 1910 and entered Harvard College where he made a host of life-long friends and developed into an excellent middleweight boxer. Upon completion of his college training, he sailed on a mission boat for Dr. Grenfell along the coast of Laborador. He then entered the School of Medicine of the University of Pennsylvania and was graduated in 1919 among the top men of his class.

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During his medical school days in 1917, Dr. Grant married Anne Lewis. They had five children, three of whom are still living: Nancy, Francis, Jr., in the Diplomatic Service, and Joseph, who is Chief of Medicine at the Veterans Administration Hospital in Vermont.

Following a two-year internship at the Hospital of the University of Pennsylvania, he became an apprentice to Dr. Frazier. In those days, the residency program as it is known today had not been established. His talents were quickly recognized so that by 1928 Dr. Grant was elevated to the position of Assistant Professor of Neurosurgery in both the School of Medicine and the Graduate School of Medicine. Up to this time, he had spent part of a year—1925—with Dr. Harvey Cushing at the Peter Bent Brigham Hospital in Boston as a clinical clerk. In 1935, he was promoted to Professor of Clinical Neurosurgery in the Graduate School of Medicine and, in 1936, he succeeded his chief, Dr. Frazier, as Professor and Chairman of the Department of Neurosurgery in the School of Medicine.

Dr. Grant wrote many papers, of which some 226 or more have been published. His writings are characterized by clarity of thought, a crisp, clear style and especially, a "to-the-point" evaluation of the problem. The paper which best exemplifies this is the one entitled, "A Study of the Results of Surgical Treatment in 2,326 Consecutive Patients with Brain Tumors." This is an outstanding evaluation of the results of surgery in brain tumor patients and represents a monumental contribution. He concluded from this study—659 of these pa-

tients having lived for from 5 to 30 years—that in a patient who has a removal-type tumor one should "put to work the very best and most experienced team the clinic can assemble."

One of Dr. Grant's hobbies was the taking of photographs of various lesions of the brain and spinal cord. Very early, he recognized the effectiveness of color photography. As a result, he accumulated, to the best of my knowledge, the most outstanding collection of color slides of surgical lesions of the central nervous system. He used these freely in his lectures and his apt and concise technique of lecturing made him one of the most popular lecturers in the School of Medicine. The students knew him as the distinguished character of the Corn Cob Pipe.

The training of men for the practice of neurosurgery was a major interest of Dr. Grant. When the American Board of Neurological Surgery was established in 1937, he became one of the members. In 1952, he became Board Chairman. He, therefore, played a leading role in formulating the training program for residents in neurosurgery as it is today.

During World War II, Dr. Grant gave a short course to Army Medical Officers on the treatment of brain, spinal cord and peripheral nerve injuries, in spite of the added work load created by younger neurosurgeons entering the service. Nearly 100 officers took this course. In addition, during his teaching career, he trained over 30 physicians for the practice of Neurosurgery.

Dr. Grant was a member of all the major neurological and surgical societies. In 1951, he was elected an honorary member of the Italian Neurosurgical Society—Societa Italiana di Neuro-chirurgia. He was a member in one capacity or another of 27 hospitals in this area.

Dr. Grant died of a coronary thrombosis in the University Hospital on November 20, 1967. Just the day before his death, he gave my senior resident a lecture on the qualifications of a good neurosurgeon.

To those of us who were close to Dr. Grant, he will always be remembered for his inspiring personality, his passionate desire for truth, his frank, outspoken statement of facts, his profound desire for perfection of not only surgical technique but also patient care, and for his love of teaching students and training men to become better neurosurgeons.

To me, Dr. Grant was a particular inspiration and I owe much of what I have accomplished to him.

Memoir of William E. Krewson, III 1908–1968*

By EDMUND B. SPAETH, M.D.

WILLIAM E. Krewson, III, M.D., a distinguished Philadelphia ophthalmologist, respected by all his colleagues and beloved by those who knew him intimately, died recently after a second massive coronary attack.

The first attack occurred several years ago, and it was thought that his recovery from this was complete and permanent. It is difficult to reconcile these coronary attacks with his gentle disposition, his kindly, generous attitude to all his contacts, and the apparent absence of any mental stress or strain, except as surmised by a few of his intimate friends.

Dr. Krewson was the only son of William E. Krewson, Jr., and Etta May Shoemaker, both long-time residents of Germantown. His father was a druggist, much better described as a pharmacist, with his pharmacy in the Mt. Airy area of Germantown until his death. Dr. Krewson was graduated from Germantown High School in Philadelphia in 1926 and went on to Wesleyan University in Middletown, Connecticut, from where he was graduated with honors in 1930. Following his graduation, he was active in alumni activities of Wesleyan University for many years, especially on behalf of potential scholarship candidates from the Philadelphia area.

He was graduated from the University of Pennsylvania School of Medicine in 1934 and completed a rotating internship in the Allentown General Hospital. It is quite proper to say that they turned out a very fine physician. It is interesting that at the end of his internship his greatest field of inquiry was obstetrics and gynecology.

Between the time he completed his internship and his start in postgraduate medical study, he became interested in ophthalmology. In retrospect, it seems that this was probably the result of the long-time friendship which existed between Dr. Luther C. Peter and his father. In 1935, he took the Basic Science Course in Ophthalmology at the then Graduate School of Medicine of the University of Pennsylvania. The chairman of the Department of Ophthalmology at that time was Dr. William T. Shoemaker, who also shared in the formation of Dr. Krewson's decision to enter ophthalmology.

Following his completion of the basic science course and his qualification for a Master of Medical Science degree in Ophthalmology, he entered private practice with Dr. Luther C. Peter and continued in association with him until Dr. Peter's death. Following that, Dr. Krewson continued in the private practice of ophthalmology, taking over the practice of Dr. Luther C. Peter.

Dr. Krewson continued actively in postgraduate teaching in the Department of Ophthalmology in the Graduate School of Medicine until his death, reaching the rank of Associate Professor.

Early in his practice, he became most interested in oculomotor disturbances and soon became a well-known and acknowledged American authority. His association with the Orthoptic Council of America was evidence of his excellence in this field of ophthalmology.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Also, early in his postgraduate practice he joined the clinical service of Dr. Edmund B. Spaeth at the Wills Eye Hospital, and from there rose through the ranks of staff appointments and promotions to reach the positions of Attending Surgeon and Chief of Ocular Motility at the Wills Eye Hospital, positions he held at the time of his death.

His contributions to the literature of ophthalmology and ophthalmic motility were all beautifully written and well received. He was meticulous in his study of his cases and always willing to present and discuss these with the residents, with his associates and with referring ophthalmologists. By his death, Philadelphia ophthalmology and American ophthalmology lost a dedicated, mature ophthalmologist, and the Wills Eye Hospital lost a staff member of outstanding stature. His wife, the former Mary Britz, is his only survivor.

The writer lost a dear friend and an esteemed associate from the time that he was a student in the Graduate School of Medicine until his demise. He was, in every sense of the word, a gentleman.

Memoir of William Harvey Perkins 1894–1967*

By THADDEUS L. MONTGOMERY, M.D.

WILLIAM Harvey—the name savors of medical tradition. We recall the English anatomist, born at Folkstone, England, April 1, 1578, graduate of Cambridge, student of medicine under Fabricus, Casserius and Galileo; author, scholar, discoverer of the circulation of the blood.

I have sought to trace a connection between the names of these two medical scholars, so highly regarded in their respective generations, but there appears to be none. Harvey was the mother's family name, and William, of course, a common title. However, someone inadvertently hung above our William Harvey's cradle a star, which he gazed upon, and under the effulgence of which his career evolved and expanded and in a modest way approached that of his famous progenitor.

William Harvey Perkins was born in Germantown, Pennsylvania, on October 21, 1894, the son of Penrose Robinson and Mary Harvey Perkins. From an early age he manifested interest in science and a desire to become a medical missionary. In this direction he was undoubtedly nurtured by his uncle, E. Newton Harvey, Henry Fairfield Osborn Professor of Biology at Princeton University, and by his own reading of the lives of Stanley and Livingstone.

He was educated at the Germantown elementary schools and Central High School. In 1913, at the age of 19, he entered the Jefferson Medical College. He served an internship at Jefferson Hospital and did his stint of military duty in World War I as First Lieutenant in the Medical Corps of the U. S. Army at Base Hospital №120 in Tours, France.

Incidentally, his classmates and friends in medical school had made short shrift of his surtitle, William Harvey, and labeled him "Cy" after a similarly-built, lanky and amiable comedian at Keith's Vaudeville Theatre on Chestnut Street, who sang songs and cracked jokes about "Cy Perkins, the farmerman." The name stuck the remainder of Dr. Perkins' life. Thus, the mighty became subject to the common place.

On return from France, "Cy" married Barbara Isabelle Bond of Germantown, and without further delay the two set forth together upon a life's work. He secured in 1918 an appointment as Medical Missionary to Siam under the Presbyterian Board of Foreign Missions. In the interior of Siam for four years, he dispensed health education and medical treatment under extraordinarily difficult conditions. Without the companionship of a courageous wife, he would never have survived. Mind and spirit were always far ahead of a not too rugged constitution. The victim of malaria and a succession of tropical boils, he was finally forced to return to this country to recover health.

The Rockefeller Foundation provided a sabbatical leave during which he visited schools of public health and spent a year in the medical service of Thomas McCrae at Jefferson. This experience and the several years in the back country of Siam undoubtedly set the stage for his notable career in public health and preventive medicine.

In 1926, through a cooperative arrange-

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ment of the Rockefeller Foundation and the Government of Siam, he returned to Bangkok as Professor of Medicine in the Royal Medical School of Chulalangkarana University and Physician to the Government. In these positions he served with distinction until the termination of services of all foreign teachers in 1931. At this time, the King of Siam conferred upon Dr. Perkins the highest honor of his country, the Order of the White Elephant.

In June 1931, Dr. Perkins was appointed Instructor in the Department of Medicine of Tulane University School of Medicine and the next year Professor and Head of the newly organized Department of Preventive Medicine. From this position he resigned in 1941 to accept the Deanship of Jefferson Medical College and the Chairmanship of the Department of Preventive Medicine.

The return of William Harvey Perkins to his alma mater was an important event in the history of that institution. The morale of the college was low, its academic reputation had ebbed and its leadership was uninspired. The new dean brought clear vision of what the institution should be, a scholarly approach and inspiring leadership.

His activities were not confined to revitalization of the Jefferson Medical College but extended to the growing health problems of Philadelphia. He is credited with the planning of the ten District Health Centers of Philadelphia. He chaired for many years the Health Division of the Health and Welfare Council of Philadelphia.

Dr. Perkins was active in the affairs of The College of Physicians, particularly in the Section on Public Health and Preventive Medicine. The College honored him by establishing the William Harvey Perkins Prize for the best essay on Preventive Medicine written by a student of any one of the five medical schools of Philadelphia.

Dr. Perkins enjoyed writing poetry about his children and grandchildren, prose concerning the incidents of his life in Siam, and treatises on subjects of public health and preventive medicine. The former remain unpublished, but the latter are well recognized articles and texts, including *Cause and Prevention of Disease* (Lea and Febiger, Philadelphia, 1938, 748 pp.) and *Obstetric Medicine* (Edited by Fred L. Adair and Edward J. Stieglitz, Lea and Febiger, Philadelphia, 1934, Chapters X and XI).

His scholarly career and high position brought many responsibilities and many honors. These included membership in the following societies:

American Medical Association
American Society of Tropical Medicine
American Public Health Association
National Tuberculosis Association (Regional Director)
American Red Cross, Home Hygiene Division, (Chairman, 1938, to date)
Orleans Parish Medical Society
Louisiana State Medical Society (Chairman, Section on Public Health, etc., 1941)
New Orleans Academy of Sciences (Secretary, 1939, to date)
New Orleans Council of Social Agencies (President, 1941)
New Orleans Mental Hygiene Association (President)
Louisiana Society for Mental Hygiene (President)
Social Hygiene Association of New Orleans (Vice President)
Member, Board of Directors, Philadelphia Tuberculosis and Health Association
Association of Spanish-Speaking Physicians
The Medical Club of Philadelphia
Theta Kappa Psi Medical Fraternity
Alpha Omega Alpha Honorary Medical Fraternity

Council of Social Agencies
Community Fund
Foreign Policy Association
Fellow, American College of Physicians, 1942.

What mainly attracted his friends as they grew older with him were his individual attributes. He was a friendly person; he possessed a scholarly mind; he pursued his speciality in medicine with enthusiasm; he led his Faculty of Medicine in the paths they would follow; and he took time to encircle his wife, his children and his grandchildren with love.

Failing health forced Dr. Perkins to resign the arduous duties of Dean in November 1950 and of Professor of Preventive Medicine in 1959. He died on October 22, 1967.

The Scripture says, "Blessed are the meek, for they shall inherit the earth."

I should like to add, "Blessed are the intelligent, for they may some time prevail on earth."

Memoir of William Whitaker 1880–1968*

By FREDERIC C. SHARPLESS, M.D.

IT is a pleasure to pay tribute to a doctor who left a reputation of unusual medical ability and of compassionate service to his patients and yet was too modest to advertise his good works. His self-effacement was proverbial.

William Whitaker, M.D., was born in Philadelphia on August 7, 1880. His forebears had emigrated from England to this country in 1814 and his father was the founder of a cotton mill nearby. His son was graduated from the University of Pennsylvania School of Medicine in 1903, being one of the youngest in his class. He felt that he owed more to Dr. D. J. McCarthy, his quiz master, than to any of the regular members of the faculty. Like his classmate, Walter George Baird, he developed tuberculosis at the medical school, but, unlike Baird, he recovered with the loss of eight years' work. When able to resume work in 1914, he opened an office at 5448 Germantown Avenue and lived the life of a general practitioner or family doctor for about forty years. He was associated at first with the revered Dr. Howard Fussell at St. Mary's Hospital and later with the Episcopal Hospital. Here he met a life-long friend, Dr. A. P. C. Ashhurst.

In 1910, he was married, and Mrs. Elizabeth B. Whitaker still survives. There are no children and Mrs. Whitaker, charming and intelligent, devoted her time to furthering her husband's success. He developed no specialty; he treated rich and poor alike, all of whom held great affection for him as a skillful doctor and warm friend. His modesty prevented any medical writing for publication. His wife says that he was far more interested in cure than in finance.

In 1917, the crowning period of his career came with the World War I. Through the influence of Dr. Ashhurst, he obtained enlistment in Pennsylvania Base Hospital №10 with the rank of first lieutenant. Here he served in the surgical section for twenty months and in the British General Hospital №16 until his discharge at Camp Dix on April 22, 1919, with the rank of captain. He had valued very highly his association in France with Charles F. Mitchell, surgeon (later his surgical consultant in Germantown), his room-mates, Frank Knowles, dermatologist, and the beloved Howard Cloud, practitioner in Ardmore, now deceased. Also there were James R. Cameron, dental surgeon, and many other members of Base Hospital №10 staff. His only and probably favorite recreation was to go on walks with his old companion in arms, Dr. Cloud.

Dr. George Wilson used to tell us that where there is somatic illness there is usually mental illness as well. Before the advent of the sulphas, all honest doctors knew that their presence in the sick room did the patient more good than their bad-tasting medicine, and I am sure that the visits of a man like Dr. Whitaker did not become any less welcome with the advent of the newer drugs.

The writer once attended Dr. Whitaker professionally after his retirement and, after two weeks of contact with him, it was easy to explain why such an aura of excellence had always surrounded him. Dr.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

John H. Wolf, surgeon to the Germantown Hospital, had this to say, and he said it with enthusiasm: "Dr. Whitaker was the most loved man I have every known. He was quiet and gentle, with a keen diagnostic sense, most unassuming and modest. No one could have attended to his work more faithfully and with more efficiency and kindness. He was worshipped by his patients."

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Dr. William Bryant (1730–86): American Physician and Antiquary[1]

By FRED B. ROGERS, M.D.[2]

A FINE contemporary portrait of Dr. William Bryant, an 18th-century tenant of the historic William Trent House at Trenton, N. J., directs today's viewer back to the remarkable life and times of its subject. The Chevalier Bryant, as this French-trained physician was sometimes called, was a well-educated and widely-travelled man who participated in tumultuous events during the American Revolution. A cultured and wealthy person, he combined medical practice with interests in natural science and antiquarian lore (1).

William Bryant was born in New York City on 3 January 1730/31, son of Captain William Bryant and Eleanor his wife, and eight days later was baptized in the First Presbyterian Church there. Captain Bryant, according to the words on the tombstone his son erected in 1772 in St. Peter's Churchyard, Perth Amboy, N. J., "in 55 voyages, in the Merchant Service between the Ports of New York and London, approved himself a faithful and fortunate commander." Captain and Mrs. Bryant took pride in their seven children: Mary, the oldest, born in 1722, crossed the ocean with her father and was tutored in London by the Rev. Isaac Watts before she returned to marry William Peartree Smith, who became mayor of Elizabeth, N. J.; Martha, wed to the Rev. Lorenz T. Nyberg, a Swedish Lutheran minister of Lancaster, Pa., later died a widow in England; Rebecca, married Captain Le Chevalier Deane, an eminent citizen of Charleston, S. C.; William, studied medicine, as did his younger brother, Joshua, who practiced on the West Indian island of Grenada; Elizabeth, was the wife of the Rev. Benjamin Woodruff, pastor of the Presbyterian Church at Westfield, N. J.; and Ebenezer, the youngest, born in 1736, read law and practiced in Elizabeth, N. J. (2).

William Bryant was graduated B.A. from Yale College in 1717; a decade later he received its M.A. degree (3). As Paris excelled as a center for surgical study up to the time of John Hunter, Bryant travelled to France to acquire professional skill. [Other Americans who studied at Paris or Rheims during this period were Drs. Thomas Cadwalader (1708–79),

[1] Kate Hurd Mead Lecture in Medical History XX, Woman's Medical College of Pennsylvania and Section on Medical History, The College of Physicians of Philadelphia, 15 April 1969.

[2] Temple University School of Medicine, Philadelphia, Pennsylvania 19140.

FIG. 1. Portrait of Dr. William Bryant, now hanging in The William Trent House, Trenton, N. J. Attributed to Matthew Pratt (1734–1805), a pupil of Benjamin West. Oil on canvas, 24 x 29″, *circa* 1776. The original owner of this portrait was Elias Boudinot, a friend and kinsman of Dr. Bryant.

Phineas Bond (1717–73), and John Jones (1729–91), all of whom became eminent practitioners in Philadelphia.] Great French surgeons of this era included Henri-François Le Dran, famed lithotomist, Jean-Louis Petit, inventor of instruments and procedures, and Jean-Joseph Sue, surgeon and teacher of surgeons. The *Académie Royale de Chirurgie*, founded at Paris in 1731, was an organization in which these men collaborated.

Dr. Bryant settled for practice in New York City. He remained there until 1769, when he purchased for £2,800, by deed dated 28 October, an estate called Kingsbury at Trenton. Built fifty years earlier by the town's founder, William Trent, a native of Inverness, Scotland, the house and "plantation" was situated at Littlebow, where the Assunpink Creek entered the Delaware River at its tidal falls (4). A contiguous property was owned by Dr. Thomas Cadwalader, a Quaker physician who lived from time-to-time at Lamberton, his wife's family seat south of the town. Dr. Cadwalader resided at Trenton from 1743 to 1750 and was its first chief burgess or mayor under royal charter in 1745–46. He founded the Trenton Library Company by a gift of £500 in 1750—New Jersey's first "public" library. Returning thereafter to his native city of Philadelphia, in 1769 he was chosen a vice-chancellor of the American Philosophical Society, an office he filled until his death on 14 November 1779. His body was interred in the Hanover Street Friends Meeting burial ground in Trenton (5).

Dr. Bryant and his wife, Mary, went to Philadelphia occasionally on business and to visit the doctor's niece, Mary, and her husband, Dr. Samuel Duffield (1732–1814). Miss Sarah Eve (1750–74), a young lady who died while engaged to be married to Dr. Benjamin Rush, met Mrs. Bryant at the Duffields on 2 November 1773 and wrote an uncomplimentary impression of her in a later-published diary (6). Described as arrogant, domineering and stingy, Mary Bryant remained childless and, by 1779, was losing her eyesight. For these reasons, perhaps, the Doctor sought affection elsewhere. Charity Murrow of Trenton bore him a "natural" son, also named William Bryant, who was acknowledged and generously provided for by his father.

At Dr. Duffield's prompting, Bryant wrote out his observations on the electrical eel which he had made on a short visit to Surinam, a Dutch colony on the northeast shoulder of South America. Duffield read the report to the American Philosophical Society at Philadelphia on 5 February 1773. As this was a time when electrical phenomena were new and fascinating, the electrical eel excited a great deal of atten-

Fig. 2. The William Trent House, Trenton, as it appears today. Built in 1719 for Chief Justice William Trent of New Jersey, who died there in 1724, it was the home of Dr. and Mrs. William Bryant from 1769–78. Opened to the public as a museum in 1939.

tion. Bryant described his tests, which indicated that the eel's discharges were similar to those of common electricity. He noted that after a period of confinement this "extraordinary animal" lost much of its electric strength, but that when provoked, its impact revived. Bryant received several "very smart shocks" for his curiosity. The report won him election to the American Philosophical Society on 21 January 1774. The paper was published in 1786 as Communication No. 12 of Volume 2 of the Society's *Transactions* ("Account of an Electrical Eel, or the Torpedo of Surinam, by William Bryant, Esquire", pages 166–169). There is no record that its author ever attended a meeting of the Society; the secretary sent him a membership certificate in January 1786.

During the War of Independence, Dr. Bryant evidenced Tory sympathies. His name appears as a half-pay surgeon on the rolls of the New Jersey Volunteers, a Loyalist regiment raised by General Cortlandt Skinner in 1776 (7). On 23 January 1776, the Burlington County Committee of Safety, suspecting that Bryant might be planning to join the British Army at Boston, placed him on parole; later this was extended to thirty miles to permit him to visit Princeton, where he had patients, and Philadelphia, where he had relatives.

Shortly before the Battle of Trenton, Bryant warned Colonel Johann Gottlieb Rall, commander of the Hessian detachment stationed there, of an impending attack by General Washington's army—a warning ignored by the overconfident

mercenary. General William S. Stryker told this anecdote in his book, *The Battles of Trenton and Princeton*, published in 1898 (8).

> On Monday morning, December 23, at eleven o'clock, Lieutenant Ernst Christian Schwabe of the von Lossberg regiment met on King Street Dr. William Bryant, the physician who lived on the Kingsbury Farm, and who was seeking Colonel Rall. But Rall could not be found that morning, and Dr. Bryant left Lieutenant Schwabe with the promise that he would return later in the day. He did so, and then told Colonel Rall that he had just heard from a Negro who had crossed the river that the rebels had drawn rations for several days, and were about to attack Trenton. "This is all idle chatter! It is old women's talk," impatiently answered Colonel Rall. But the doctor, who was afraid of being robbed and having his house burned took the matter more seriously.

Dr. Bryant's house, referred to in Hessian records as the "*Doctor Hauss,*" overlooked an important Delaware River ferry (site of today's Penn Central Railroad bridge). A picket patrol was maintained by Hessian sentries between the ferry and the "*Caserne*" or military barracks in the town. The doctor attended soldiers living in what is today called the Old Barracks—a stone structure built in 1758 to quarter British troops during the French and Indian War. (Restored as a museum, the Old Barracks, located on the State Capitol grounds at Trenton, was opened to the public in 1917.)

There were really two battles of Trenton—the dramatic surprise of the Hessians, 26 December 1776, and the Battle of the Assumpink, 2 January 1777. In the first battle, at a cost of none killed, four wounded, but two frozen to death, the Americans captured over 900 prisoners, 1200 small arms, 6 brass cannon and the colors of the Hessian brigade. (The Hessians lost 35 killed, including their commander, and 60 wounded. Generals Washington and Nathanael Greene spoke with the mortally-wounded Rall and in response to his request assured him that the prisoners would receive kind treatment.) In the second battle, following a significant delaying action in which British troops under General Cornwallis were repulsed at the Assumpink Creek, Washington left his camp fires burning and after a bold night march scored another victory at Princeton. The Trenton-Princeton campaign marked the turning point of the War of Independence.

The Kingsbury farm was a part of each engagement at Trenton. Following seizure of the stone bridge over the Assumpink by the Americans in the first battle, Colonel Daniel Hitchcock's brigade threw up temporary breastworks on the high ground along the south side of the creek on the Doctor's land. The subsequent British assault on the strategic bridge was repulsed from this vantage point. Though known to be friendly with the Hessians, Dr. Bryant was not molested by the patriots. His professional value apparently overshadowed political differences and he attended casualties on each side of the conflict.

Also during the war, Bryant met his partner and successor in practice, Dr. Nicholas de Belleville (1753–1831). A native of Metz, France, trained as a surgeon in Paris, Belleville came to America with the Polish Count Casimir Pulaski as medical officer to his legion. While camped at Trenton in 1777, Dr. Belleville met Dr. Bryant, who treated him cordially and encouraged him to enter into partnership. Following the death of Pulaski in battle, Belleville returned to Trenton late in 1778. The New Jersey Assembly, in minutes dated 7 October 1780, appropriated £4, 1 s., 3 d. to Drs. Bryant and Belleville "for medical attendance on Enoch Anderson, taken sick in service, June 1780" (9). Again, on 25 October 1787, after Dr. Bryant's death, a petition to the Orphans' Court by John Langstaff and his wife Charity stated: "That the said Charity is the mother of a child named William Bryant,

to whom Dr. Wm. Bryant left a considerable legacy; the acting Executor being dec'd, they petition that Dr. Nicholas Belleville may be appointed Guardian of said Child" (10). Dr. Belleville, who served as the boy's guardian until September 1794, remained at Trenton for the rest of his life—esteemed as a physician and the progenitor, through his daughter, of a remarkable line of descendants.

During Dr. Bryant's residence at Kingsbury, the farm yielded a rich variety of Indian artifacts—stone hatchets, chisels, pestles, arrowheads, a pot with handles shaped like a porringer's, and a cup made of asbestos-like material (11). The Unami or turtle clan of the Lenni Lenape Indian tribe had formerly been centered near the falls of the Delaware River. Some of their relics Bryant gave to Pierre Eugène du Simitière, another member of the American Philosophical Society, for the latter's museum on Arch Street in Philadelphia. The Swiss-born du Simitière, antiquary, naturalist, artist and designer of the Great Seal of the United States, recorded a varied correspondence with Bryant between 1776 and 1783—concerning almanacs, curios of nature, and weather observations (12). Du Simitière's collection, opened to the public as the American Museum, remained intact for only two years (1782–84). Having devoted his life to the assembling of material and specimens for a natural and civil history of America, it is unfortunate that the General Assembly of Pennsylvania, after du Simitière's death in 1784, did not deem it expedient to purchase and preserve his collection, refusal of which had been granted it in his will (13).

Another antiquarian link of Dr. Bryant came through his friend and kinsman, Elias Boudinot (1740–1821), a prominent New Jerseyman. Boudinot's younger brother, Elisha, of Newark, married Bryant's niece, Catharine Smith, in 1778. Like William Penn, Quaker founder of Pennsylvania, and other earlier thinkers, Elias Boudinot speculated about the origin of the American Indians—believing them to be possible descendants of the Biblical Lost Tribes of Israel. A firm patriot, Boudinot served as president of the Continental Congress, signed the Peace Treaty of 1783 with Britain, and was a friend of George Washington, who appointed him director of the Philadelphia Mint (14).

In 1816 Boudinot had published at Trenton a book, *A Star in the West; or, a Humble Attempt to Discover the Long Lost Ten Tribes of Israel, Preparatory to Their Return to Their Beloved City, Jerusalem.* As with the guiding star in the east of the Christmas story, Boudinot considered the North American Indians to have been divinely directed to the New World. Although his scholarship was in the tradition of many speculative writers who had preceded him, Boudinot's book climaxed the concept of an aboriginal Amerindian connection with the ancient Israelites. His work offered, among other ideas, the theory that certain Hebrew words phonetically resembled those of the red man's vocabularies. Published twenty years after the death of Dr. Bryant, his name does not appear in *A Star in the West.* Almost a century later, however, another physician-naturalist of Trenton, Dr. Charles Conrad Abbott (1843–1919), living and working close to the Kingsbury farm site, uncovered more solid evidence of the aboriginal people in the Delaware Valley.

Dr. Bryant was a man of considerable wealth—real and personal property and servants. *The Pennsylvania Gazette* of 28 December 1772 listed two servants. "Henry Keyuts & Baltzar his son, late of Rotterdam," bound by indenture to Dr. Bryant at Trenton before Mayor John Gibson of Philadelphia (15). In the Doctor's will, probated in 1786, he bequeathed "all my Negro slaves except the boy William and the girl Peggy" to his widow—with the charitable proviso that none of them shall "be sent off to or sold in the West Indies

contrary to their own will and consent" (16). Again, in *The Pennsylvania Gazette* of 9 March 1774, Bryant advertized for sale or lease "a number of building lots in Kingsbury, on east and west sides of Broad Street and north side of Delaware Street, leading to the river, . . . most delightfully situated, the soil exceeding good for gardening, and excellent water may be had at a moderate depth" (17).

In October 1778, Colonel John Cox of Burlington, ironmaster at Batsto and a Revolutionary soldier, purchased Kingsbury Hall and changed the name of the brick mansion to "Bloomsbury Court." During the residence of Colonel and Mrs. Cox and their six daughters, General and Mrs. Washington, the Marquis de Lafayette, the Comte de Rochambeau and other notables visited this charming home. Dr. Bryant, who moved to smaller quarters in Trenton, gradually withdrew from medical practice. A separate release by Mrs. Bryant on a real estate sale, dated 8 February 1781, and executed more than three months after the deed of her husband, hints at a domestic disagreement, if not a separation. The Doctor's final recorded purchase of property in Trenton was by a deed, dated 17 December 1783, conveying to him a house and lot on the east side of King (now State) Street (18).

General Cornwallis, the British commander in chief, surrendered his forces to a combined American and French force at Yorktown, Virginia, in October 1781. After the curtain fell at Yorktown the players began to leave. It was two years, however, before the lights were put out and the theatre emptied by the departure of British and Tories from New York City on the famous Evacuation Day of 25 November 1783. Sir Guy Carleton completed the evacuation of his red-coated garrison; General Washington and his troops marched in, and on 4 December, at Fraunces Tavern, the American leader bade farewell to his dispersing army and rode south to spend Christmas at Mount Vernon.

Dr. Bryant, described by Dr. Belleville as elderly before age 50, did not choose to leave his native land, as had numerous other Loyalists. Sometime after 1783 he returned to the city of his birth, New York. His death, "of an apoplexy," on 11 January 1786, was noted in the First Presbyterian Church register—which 55 years earlier had recorded his baptism. The place of burial was not stated, but it was probably in the burying ground surrounding the church on Wall Street. Mrs. Bryant lived in comfortable circumstances in a house on Crown (now Liberty) Street in New York City until her death twelve years later.

By his will, dated 28 October 1785, Dr. Bryant left most of his property to his widow (19). He further devised, "To my natural son, William Bryant, by Charity Murrow, £600, to be paid him when he arrives at the age of 21 years; he to be supported by the interest arising from above sum; he to be put to a trade and when he has learned the same, £150 more to be paid him in the setting up and carrying on said trade; if my natural son should die, £50 of the above sum to be paid to his mother." Substantial bequests were made to several nieces and nephews. To his nephews, Belcher P. Smith and William Pitt Smith, the Doctor bequeathed all his books. He left £50 to his namesake, William Bryant Duffield, oldest son of Dr. and Mrs. Samuel Duffield. [Dr. William B. Duffield (1770–1841), who received an M.D. degree from the University of Pennsylvania in 1790, also practiced in Philadelphia during his lifetime.]

In Mrs. Bryant's will, executed early in 1797 and proved 26 November 1798, she remembered many friends, Negro servants, and relatives (20). Among the kinfolk, she left £200 to her husband's illegitimate son. This gesture suggests that young William's ways were winning—and that Mary Bry-

ant's disposition had mellowed since that day in Philadelphia when she played the great lady in front of Sarah Eve.

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Thomas Jefferson and the Doctors[1]

By SAMUEL X RADBILL, M.D.[2]

IT gives me great pleasure to address this Greek-letter society which has the humanitarian motto, "Worthy to serve the suffering," and the Hippocratic ideals as its goal. It is a special joy for me to return to Charlottesville, where Dr. Robley Dunglison, the hero of my earlier literary efforts, first established the medical school here in 1825 and won the immediate esteem and affection of the Father of the University of Virginia, Thomas Jefferson. For this University had been established by an Act of the Legislature on January 25, 1819. Soon it will celebrate its sesquicentennial birthday. Even though the Board of Visitors, during its gestational period, had planned only two professors, one to include anatomy among his courses, on April 7, 1824, the Board determined upon eight professors, and stipulated that the School of Anatomy and Medicine should teach anatomy, surgery, the history of the progress and theories of medicine, physiology, pathology, materia medica and pharmacy. Out of eight years of teaching here came Dunglison's monumental works: his dictionary, his physiology, a syllabus on medical jurisprudence, his work on therapeutics, and others.

When I received the invitation to come here, I pondered upon a fitting subject for my talk. Several years ago Mr. James A. Bear, Jr., Curator of the Thomas Jefferson Memorial Foundation at Monticello, showed me a manuscript, *Medical Chronology of Thomas Jefferson,* which he had diligently compiled, recording day by day and year by year medical events in the life of our great President. It occurred to me, since one of the objects of the Alpha Omega Alpha is to "ennoble the profession of medicine and advance it in public opinion," that by presenting a glimpse of Jefferson's relationship with doctors I could in some small measure help to achieve this aim.

It has often been said that Jefferson had a lifelong contempt for physicians. In fact he once remarked in the presence of Dr. Charles D. Everett, private secretary and family physician to James Monroe and not partial to Jefferson, that whenever he saw three physicians together he looked up to discover whether there was not a turkey buzzard in the neighborhood, implying, I presume, that a consultation of physicians was an omen of death. Yet Jefferson counted a great number of doctors among his most admired friends, as much for his belief in the nobility of their profession in the service of the suffering as in his attraction toward many of them for their social consciousness and scientific achievements. "In my opinion," he once wrote regarding the study of medicine, "no knowledge can be more satisfactory to a man than that of his own frame, its parts, their functions and actions."

To a young friend contemplating medicine as a career, he expressed his opinion concerning the practice of medicine in the following words: "The followers of Esculapius are also numerous. Yet I remarked that wherever one sets himself down in a good neighborhood, not pre-occupied, he secures to himself its practice, and, if prudent, is not long in acquiring whereon to retire and live in comfort. The physician is happy in the attachment of the families in which he practices. All think he

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has saved someone of them, and he finds himself everywhere a welcome guest. If, to the consciousness of having saved some lives, he can add that of having at no time, from want of caution, destroyed the boon he was called on to save, he will enjoy, in age, the happy reflection of not having lived in vain."

That Jefferson was a great skeptic concerning much of the theory and practice of medicine is common knowledge, yet, through his opposition to the practice of bloodletting and his objections to irrational theories, promulgated throughout the history of medicine, which could not be scientifically proved or withstand the test of time, he did help to moderate medical practice and direct medical research into more logical and effective channels. Regarding false speculations, he once wrote from Paris in 1788 to James Madison that "it is always better to have no ideas, than false ones; to believe nothing, than to believe what is wrong."

Bloodletting

It is hard to say just when Jefferson developed his opposition to venesection. People had faith in bleeding. They had themselves bled when they were well to keep themselves well. This was an ancient purification practice analogous in the primitive mind to menstruation as a form of periodic purification. Many physicians argued against the practice through the ages, but others pushed its use to great extremes. It was done by the barber and at the public baths, as often as a man took a bath. Sydenham, the medical idol of all good Englishmen of the eighteenth century, in almost every disease started treatment by opening a vein. But Pierre Louis dealt the death blow to bleeding in 1835 when by means of medical statistics he proved it worthless in pneumonia.

Long before Louis, however, Thomas Jefferson did not permit it to be done in his family. His contracts with the overseers of his estate specified that an overseer was never to bleed a slave. He had read LeSage, Smollett, Sterne, Fielding and Molière: all ridiculed the medical practice of their time, and he must have been influenced by their attitude toward bloodletting. From Paris in 1786, Jefferson wrote to Dr. James Currie: "Medical science was demolished by the blows of Molière." Certainly the satires of LeSage and Molière cooled the passion of the populace for venesection, but medical theorists fortified the practice by many ingenious arguments and a leading British medical journal, founded shortly before Thomas Jefferson died, is still called *The Lancet*. After Louis' persuasive calculations, however, this magic wand lost its healing power and within a decade or two bloodletting was pretty well discarded, although I must confess I was still taught that it might occasionally prove useful.

Healing Powers of Nature and Medical Theories

Jefferson, reading Sterne with his wife as he nursed her in 1782 during her last illness, apparently was impressed when the author of Tristram Shandy declared that "the physicians here are the errantest charlatans in Europe, or the most ignorant of pretending fools. I withdrew what was left of me out of their hands and recommended myself entirely to Dame Nature." Thenceforth, Jefferson firmly believed in the ancient doctrine of the *"Vis medicatrix naturae,"* the medical power of nature. Thirty years later (1812) he wrote: "While surgery is seated in the temple of exact sciences, medicine has scarcely entered its threshold. Her theories have passed in such rapid succession as to prove the insufficiency of all, and their fatal errors are recorded in the necrology of man." He also gave vent to his objection to medical theories when planning the curriculum of this College. He wrote to Dr. Thomas Cooper: "Perhaps I should

concur with you also in excluding the theory (not the practice) of medicine. This is the Charlatanerie of the body as theology is of the mind. For classical learning I had ever been a zealous advocate; and in this, as in his theory of bleeding and mercury, I was ever opposed to my friend, Rush, whom I greatly loved, but who has done much harm, in the sincerest persuasion that he was preserving life and happiness to all around him."

Jefferson was a bookworm from childhood. Naturally curious about how the body is built, he purchased Cheselden's classic book on osteology in 1764. Although he opposed the theorizing to which doctors were addicted, as well as bloodletting, he did advocate knowledge of basic medical sciences and of the history of medicine for all educated men and recommended the study of medicine to prospective students of law. Francis Bacon and John Locke, whose philosophy he carefully studied, the latter a particularly favorite author, had strong inclinations toward medicine and exerted decided influences upon medical philosophy. As a plantation owner, Jefferson also realized that the health of the slaves was economically important. While he employed physicians to care for them, he was always concerned about the medical treatment they received. He wanted to know what the doctor was giving him for his family and why. When he was suffering from urinary tract obstruction and recurrent diarrhea in the evening of his life, that part of his copy of Thomas' *Practice of Medicine* dealing with these subjects showed evidence of great wear. Many of his medical friends presented him with copies of their works. Wistar's *Anatomy* was in his library; so were Hosack's *Essays* and his *Practical System of Nosology*, as well as Ewell's *Medical Companion* and his *Improvements of the Science of Medicine*. The American medical journals began to appear just before the turn of the century and these, too, were in his library.

Pierre Cabanis

When he learned that his friend in France, Pierre Jean George Cabanis (1757–1808), planned a work on the reformation of medicine, he expressed his approbation, saying, "It needs the hand of a reformer and cannot be in better hands than his." This book appeared in 1804 and contained a history of medicine with attacks on the successive systems, theories, hypotheses and the like, suggesting research and logic, rather than abuse of the doctors by ridicule and satire, in order to improve medical practice.

Cabanis taught the history of medicine in Paris and was a foreign member of the American Philosophical Society. He lived at the home of Madame Helvetius, the gathering place for savants that included the Abbé de la Roche, Turgot, Benjamin Franklin as well as Thomas Jefferson, and undoubtedly molded some of Jefferson's views on medicine. Jefferson, in a letter to Thomas Cooper (July 10, 1812), discussing psychology and related topics, expressed his admiration for Cabanis, when he wrote: "A course of Anatomy lays the best foundation for understanding these subjects . . . and a mature study of the most profound of all human compositions, Cabanis' *Rapports du Physique et du Moral de l'homme*. This was a book which first appeared in 1802.

Cabanis published a book on the *Degree of Certainty in Medicine* in 1797 which was republished in 1802. In New York, it was abstracted in English by Dr. Edward Miller and more carefully translated later by Dr. René La Roche in Philadelphia. The works of Cabanis, so highly praised by Jefferson, and the changes in medical philosophy developing in France during the first half of the nineteenth century helped to moderate medical practice in this country. Jacob Bigelow, a private pupil of Benjamin Smith Barton, who was the friend of Jefferson, in his writings exerted

a marked impact on the medical profession of this country by adapting the views of Cabanis to the American scene. Appearing first in 1835, his essay on "Self-limited Disease" was incorporated in 1854 into a book entitled *Nature in Disease* which he dedicated to Robley Dunglison as a token of his satisfaction in knowing that Dunglison concurred with him in these principles. In like manner, Elisha Bartlett (dubbed "The Rhode Island Philosopher" by William Osler) published *An Inquiry into the Degree of Certainty in Medicine and into the Nature and Extent of its Power over Disease* (1848) in which he said he took up the subject where Cabanis left off. The image of the doctor in Bartlett's opening statement 120 years ago is as apt now as it was in the time of the Roman satires of Martial. "I am stating only what everybody knows to be true," he wrote, "when I say the general confidence which has heretofore existed in the science and art of medicine ... has within the last few years been violently shaken and disturbed, and is now greatly lessened and impaired. The hold which medicine has so long had upon the popular mind is loosened; there is widespread skepticism as to its power of curing diseases, and men are to be found everywhere who deny its pretensions as a science, and reject the benefits and blessings which it proffers them as an art." Did he have Jefferson in mind when he wrote this?

Government and Medicine

Jefferson's passion for medical knowledge went so far as to induce him, when he drew up a projected body of laws for the Commonwealth of Virginia in 1778, to recommend that bodies of those hanged for murder be delivered to anatomists for dissection.

He was opposed to government meddling in medical practice, believing that the powers of government should extend only to such acts as are injurious to others. The history of government fallibility in medicine and science did not encourage him to support the kind of centralized supervision we have today. "Reason and free inquiry are the only effectual agents against error," he said in 1802, while he was still in the White House. "Was the government to prescribe to us our medicine and diet, our bodies would be in such keeping as our souls are now. Thus in France the emetic was once forbidden as a medicine, and the potato as an article of food. Government is just as infallible, too, when it fixes systems in physics. Gallileo was sent to the Inquisition for affirming that the earth was a sphere; the Government had declared it to be as flat as a trencher, and Gallileo was obliged to abjure his error.... It is error alone which needs the support of Government. Truth can stand by itself." Thus he wished to separate science and Government as he did Church and State.

Personal Medical Experiences

Jefferson's skepticism toward doctors and medical practice must have been aroused by the shocks of many unfortunate medical experiences. His father died when he was still at a very impressionable age. Whatever the anguish and resentment of the young adolescent at this time, however, it was certainly not directed at the attending physician, Dr. Thomas Walker, who was a friend of the family, a highly respected citizen in Albemarle, related to George Washington, and after the death of the elder Jefferson, legal guardian to Thomas Jefferson until he became of age in 1764.

In the autumn of 1765, Thomas Jefferson suffered another severe emotional shock in the death of his favorite sister, Jane, who was three years older than he. Jefferson grieved for her all the rest of his life. *"Longe, Longeque Valeto,"* he wrote in her epitaph. She had mothered him

and was a close companion of his youth, for he had been deprived of maternal affection.

In 1773 Dabney Carr died at Charlottesville at the age of thirty from a bilious fever. He had been one of Jefferson's most intimate friends, his bosom companion in their studies and had married a sister of Thomas Jefferson. The two friends now lie in graves not two yards apart.

Carr's death caused a serious mental disturbance in his wife, Jefferson's sister Martha, herself ill from a recent confinement. Six fatherless children, along with Jefferson's widowed sister, were taken into Jefferson's home and raised as his own. The death of one of them, Peter, a favorite of Jefferson's, not long after was another blow to Jefferson.

But his greatest grief came in 1782 when his wife died. He was desolate. Taking turns with his sister and his sister-in-law, he had nursed her tenderly and for four months was never out of calling distance. Of the six children born to them, only the eldest, Martha, survived to adulthood.

It is small wonder that he had little faith in the help the doctors could render and stated that the fatal errors of medical theories are recorded in the necrology of man. Years later he wrote philosophically to John Adams about grief: "I have often wondered for what good end the sensations of grief could be intended. All our other passions, within proper bounds, have a useful object. And the perfection of the moral character . . . is a just equilibrium of all the passions. I wish the pathologists then would tell us what is the use of grief in the economy, and of what good it is the cause, remote or proximate."

I do not know who treated Mrs. Jefferson in her last illness. Mr. Bear's *Medical Chronology* mentions many doctors, from which I would assume that many were tried and found wanting. The account books of Dr. George Gilmer record visits to Mrs. Thomas Jefferson for several years after the Jeffersons were married. George Gilmer, Jr., a year older than Jefferson, was the son of a physician-apothecary of Williamsburg, nephew of Dr. Thomas Walker and classmate of Thomas Jefferson. After studying under his uncle, Gilmer completed his medical education in Edinburgh and eventually set up in practice in Albemarle. He married his cousin, Dr. Walker's daughter, who was as much a patriot as her husband and it is said she offered Mr. Jefferson her jewels to use in her country's cause.

Jefferson and Small Pox Prevention

A practical man, Thomas Jefferson was unable to tolerate obscure speculations, but the value of inoculation to prevent small-pox was real to him. In 1766, when he was twenty-three, he took the tedious journey to Philadelphia to be inoculated by Dr. William Shippen. He had been referred to Dr. John Morgan by his friend, George Gilmer, who had been a fellow student of Morgan's in Edinburgh, but Morgan just the year before had assumed the professorship of medicine in the newly opened Medical School at Philadelphia, and since he limited himself to the practice of medicine probably referred Jefferson to Shippen for inoculation since it was a surgical procedure. When Jefferson called on Morgan he was instructed and entertained by Morgan's collection of Italian art and by his European reminiscences. One student of Jefferson's life believes Jefferson owed to John Morgan "his real initiation into the arts." The doctor's instruction and example were as fruitful for the young Virginian's growth in that field as were Small's in Science, Wythe's in law and Fauquier's in music and the refinements of worldly society. Morgan also owned a collection of natural curiosities among which were skeletal parts of a mastodon found at Big Bone

Lick, Ohio, in 1766. These inspired Jefferson's curiosity, leading him into a long chase after the paleontological mysteries of the "mammoth."

When Jefferson was in Philadelphia again in 1775 his slave, Bob, was also inoculated by Dr. Shippen; and the first thing Jefferson did when he had recovered sufficiently from his grief after his wife's death in 1782 was to carry off his own three children together with those of his sister to an unoccupied house at Ampthill to be inoculated. He remained with them, acted as chief nurse, defending them, I suspect, from the meddlesome medical care so often insisted upon before and after inoculation by the doctors. It was a serious operation. Not only could it turn out fatally, but it was necessary to isolate the patients in order to prevent the spread of the small pox.

When Jefferson in 1800 learned about Edward Jenner's success with the much milder cow pox vaccination, he immediately gave support to its dissemination in this country.

Benjamin Waterhouse

The story of how the President and Dr. Benjamin Waterhouse established vaccination in the United States has already been told, but I would like to say something about Dr. Waterhouse. It was natural for Waterhouse, a citizen of Massachusetts, first to try to enlist the aid of John Adams to encourage the use of vaccination, but from Adams he received only verbal encouragement. At this time Jefferson was anathema to Adams, and to industrial New England in general and Harvard University in particular. When Waterhouse of Harvard turned to Jefferson he knowingly incurred the hostile reaction of his own community. Years later John Adams mellowed and wrote to Benjamin Rush in 1812: "I am glad Waterhouse has a son with you. The father commands one of the most elegant and masterly pens in America. He is a jewel of a man and has been most cruelly used because he is a friend of the National Government and because he writes better books than any of his profession here."

Jefferson derived great personal gratification from the results of the successful dissemination of vaccine throughout the United States. In 1801 Dr. John Redman Coxe was able to introduce vaccination in Philadelphia by successfully vaccinating himself and his fourteen-day-old son with vaccine virus sent to him by Jefferson, thus propagating live vaccine matter for subsequent use. At Jefferson's request, Coxe sent him live small pox matter from one of his small pox patients which Jefferson then used to challenge the immunity of a previously vaccinated subject. Jefferson ever after retained an affection for the oft maligned and badgered Waterhouse, continuing a correspondence with him. In 1808, before leaving office as President, he wrote happily to Benjamin Rush that he had appointed Waterhouse to the Marine Hospital Service in accord with the wish of Dr. Rush. This appointment stirred up some adverse criticism because Waterhouse was such a controversial figure. In this respect John Adams once observed to Waterhouse: "I know not two characters more alike than Rush's and yours." Writing to Adams in 1821, Waterhouse said: "President Jefferson gave me a medical appointment with $1500 per annum avowedly for my successful labours in vaccination. When Dr. Eustis and some of the doctors of the Army expressed their dissatisfaction at it, Mr. Jefferson replied: 'During our Revolutionary War, we lost in Canada, and on our frontiers, ten thousand men by small pox; and we should probably lose that number or more should we have another war, had not Dr. Waterhouse prevented such a calamity by expediting by his incessant labors, the practice of vaccination full twenty years sooner than it otherwise would have been adopted. Besides, I consider not merely

the Army, but the whole people of the United States under obligation to him for saving an immense number of lives.' "

In 1824 Waterhouse sent to Jefferson a broadside listing the "heads of a course of lectures on natural history given annually since 1788 in the University of Cambridge;" and on May 31, 1825, he paid his respects to the Father of the University of Virginia at Monticello and visited the newly opened University.

Benjamin Rush

Benjamin Rush was two years younger than Thomas Jefferson. He taught at the Medical School of the University of Pennsylvania from the time of his return from Edinburgh in 1769 until his death from pneumonia. Active in practice, he saw as many as a hundred patients in one day during the yellow fever epidemic of 1793 and was able to write that day that not one of them died. An inveterate writer, in addition to his lectures and his medical inquiries and observations, he covered such diverse topics as slavery, alcoholic drinks, Indians, duelling, capital punishment, and so on. His account of the maple sugar industry was the first publication on the subject. In his commonplace book under date of May 13, 1791, he wrote: "Breakfasted this morning with Mr. Jefferson and read to him and Mr. Drinker an account of the maple tree and sugar, etc. and received some useful hints from each of them on the subject." The account was published in The Transactions of the American Philosophical Society in 1791 in the form of a letter to Jefferson whose efforts to grow sugar maples at Monticello had proved unsuccessful. Rush praised sugar not only for its dietary usefulness but as a medicine in fevers, disorders of the heart and other parts of the body, and mentioned Franklin's penchant for blackberry jam (presumably sweetened with sugar) to relieve the effects of the stone; he rejected the opinion that sugar injures the teeth. He observed in his paper that "Mr. Jefferson uses no other sugar in his family than that which is obtained from the sugar maple tree." Perhaps this was good politics on behalf of his friend whose political strength needed bolstering in New England where the maple sugar came from.

Though Rush was often wrong, he was never undecided, for which his students as well as his patients adored him. Patients and students expect the doctor to know, not "to think." Though Jefferson disagreed with Rush on medical theories, bleeding, purging and other medical matters, the two were in much agreement otherwise. They had first met in Philadelphia on June 18, 1775 at a dinner given to George Washington a few days after Washington was appointed Commander-in-Chief of the American Armies.

Rush characterized Jefferson as not less distinguished for his political than his mathematical and philosophical knowledge and wrote that "the whole of Mr. Jefferson's conversation on all subjects is instructive. He is wise without formality and maintains a consequence without pomp of distance." During the decade that Philadelphia was the capital of the Nation, they were frequently brought together especially at the American Philosophical Society where they were both members. A loyal follower of Jefferson in politics, Rush's heartfelt letter of congratulations on his friend becoming President of the United States was one of the finest Jefferson received. Rush's solicitude upon learning of Jefferson's illness, one time, touched the latter so that he gratified Rush with an account of his symptoms and was rewarded with an extended letter of medical advice drawn exclusively from empirical observation in deference to Jefferson's distrust of medical theories. After Rush died, Jefferson returned Rush's letters to his family, but this one he kept, saying he might want to refer to it again when he needed it.

When Rush presented a copy of his *Six Introductory Lectures* to Jefferson in 1801,

he informed Jefferson that "vaccination, as you have happily called it, has taken root in our City and will shortly supersede the old mode of inoculation." A year later he mentioned his investigations into the causes, seats and remedies of madness and other diseases of the mind, requesting the loan for a week or ten days of a copy of Latude's *Memoirs* from Jefferson's library because it contained an account of the author's confinement in the Bicêtre hospital for lunatics in Paris where Pinel had first cut the chains from mad patients. When the Lewis and Clarke expedition was preparing to set out on its exploratory mission, Jefferson sent Lewis to Philadelphia where Rush, at Jefferson's request, prepared medical questions for the expedition, as well as medical advice for the members of the expedition. This copy of medical directions is now in the Library of Congress.

In 1805, Rush applied for the post of director of the mint but Jefferson had to inform him he had already appointed Robert Patterson, citing the need for special talents in this post and explaining to Rush that decisions of this sort "are the most painful part of my duty.... I must anatomize the living man as the Surgeon does his dead subject, view him as a machine and employ him for what he is fit for, unblinded by the mist of friendship." Rush suggested to President Jefferson that he consider the problems of Yellow Fever and quarantine laws in a Message to Congress which Jefferson did in his Fifth Annual Message of December 3rd, 1805, recommending an inquiry into the state quarantine laws.

Rush devised a tranquilizing chair for the treatment of lunatics and one of the last of his publications to appear during his lifetime was his classic on *Diseases of the Mind* which won for him the title of Father of American Psychiatry.

One of the most satisfying achievements for Dr. Rush in his last years was the reconciliation he brought about between Jefferson and Adams. Adams gave vent to his joy at this reconciliation by calling Rush "Mr. Conjurer," saying, "the mighty defunct potentates of Mount Wollaston and Monticello by your sorceries and necromancies, are again in being."

When Rush died in 1813, he was mourned by both Adams and Jefferson. From Monticello Jefferson wrote to Adams: "Another of our friends of seventy-six is gone, another of the co-signers of the independence of our country; and a better man than Rush could not have left us, more benevolent, more learned, of finer genius, or more honest."

The Medical Signers of the Declaration of Independence

That Rush was a signer of the Declaration of Independence, a document so dear to the heart of Thomas Jefferson, is known to everybody; and nearly everybody knows that there were other medical signers. But hardly anyone knows who they were. All were medical or political acquaintances of Jefferson. Josiah Bartlett was the first to approve the Declaration. Chief Justice of New Hampshire and Governor, he was the founder and first president of the New Hampshire Medical Society.

Matthew Thornton was another signer from New Hampshire. He practiced medicine at Londonderry, was surgeon of the New Hampshire troops in the Louisville expedition of 1745 and, being absent at the time of the signing on August 19, 1776, has the distinction of being the last to affix his signature.

Lyman Hall, first trained in the ministry, turned to medicine and was a prominent practitioner of Georgia when he went to Philadelphia with Button Gwinnett and signed the Declaration. He, too, was Governor of his State.

George Taylor, a signer from Pennsylvania, was an Irish Protestant who studied medicine under the duress of his

family's desires but ran away from home and came to Philadelphia as a redemptioner, married the boss' widow and rose to fame and fortune in the iron business.

Oliver Wolcott, who, like his father and his son, served as Governor of Connecticut, studied medicine with his brother and practiced in Litchfield, but the pressures of public duties forced him to give up medical practice.

The American Philosophical Society

Jefferson was elected President of the American Philosophical Society, an organization which, like the Royal Society of England, included medicine and anatomy in its field of interest. Among its members at least sixty-five were physicians, known at least by name to Jefferson. Many of them were absorbed in study of natural philosophy, natural history, husbandry and other matters that constantly agitated the mind of Jefferson. His first contribution to the proceedings, in 1779, concerned health springs, known as the Sweet Springs which he mentioned in his *Notes on Virginia*. He served on Committees with Benjamin Smith Barton, James Hutchinson, Caspar Wistar, Benjamin Rush and other doctors, and only Benjamin Franklin and Dr. George B. Wood served the Society for a longer term of years as president.

Robley Dunglison

Dr. Wilhelm Moll, in a list of University of Virginia "firsts," has pointed out that Dunglison was the first full time American Professor of Medicine in this country. One of his courses, instigated by Jefferson, was entitled "The History of the Progress and Theories of Medicine," a title distinctly Jeffersonian and again calling to mind Cabanis. Dr. William B. Bean, a son of this Alma Mater, pointed out in this auditorium that Mr. Jefferson's influence on American medical education affected Dunglison as it did the entire medical profession of this country. Your own Dr. C. L. Gemmill has also studied the many facets of Dunglison's medical work. Jefferson was 82 when Dunglison first met him, but mentally clear and his logic was irresistible. After Jefferson's death, Dunglison went on to become one of the foremost medical writers and educators of his time and exerted a decided impact upon physicians and teachers throughout the United States.

His farewell address when he left the University of Virginia reflected much of the influence of Jefferson upon him as he recalled urging his students to avoid being wedded to any exclusive sect or system, to watch the march of nature and where in doubt to give the patient the benefit of the doubt rather than risk safety by rash treatment. One of the first tasks undertaken by Jefferson after the medical school began to function was to assemble for Dunglison's teaching a collection of anatomical preparations. These are listed in Dr. John M. Dorsey's book, *The Jefferson-Dunglison Letters*.

Jefferson chose Dunglison for his personal physician, saying, "Time and experience are needed to make a skilful physician, and nature is preferable to an unskilful one. I had therefore made up my mind to trust to her altogether, until your arrival gave me better prospects." The University Board of Visitors then promptly passed a resolution on March 5, 1825, permitting "the Professor of Medicine to practice physik within the precincts of the University." Seven months later they broadened this to permit consultation practice. In the words of Gemmill and Jones, Dunglison, at the University of Virginia, was teacher, savant, scholar and physician.

Felix d'Herelle and Bacteriophage Therapy[1]

By STEVEN J. PEITZMAN, B.A.[2]

ACCOMPANIED by journeyman rat-killer Gustaf Sondelius and armed with crates of bacteriophage ampules, Martin Arrowsmith, Sinclair Lewis' charming young avatar of scientific idealism, lands on fictitious St. Hubert not merely to fight the plague on the island, but to test objectively the therapeutic efficacy of his cherished phage: "Half to get the phage, half to be sternly deprived." If his treatment is successful under controlled conditions, reasons Arrowsmith, his contribution is not only ephemerally humane, but also permanently valid as Science, and thus in the long run genuinely humanistic. But a tropical country in the grip of disease he finds to be distinctly disorganized and "unstatistical;" his decisive experiment is not fully achieved—he will contribute to the scientific literature another "suggestive" but ambiguous report on "bacteriophage therapy."

I

To Felix d'Herelle (Figure 1), the Canadian-born (1873) co-discoverer of the bacteriophage, the curative and prophylactic abilities of his finding were never ambiguous or doubtful, but certain and powerful. His belief in the causal relationship between the bacteriophage and recovery from disease was not merely a beneficially applicable afterthought to the discovery, but as we will see, an inseparable component of his new concept of infectious disease and recovery.

The system which he formulated had its beginning with an observation made on a sample of stool not from a dysentery patient, but, significantly, from a *convalescent* of this bacillary disease (1).

> One day in the course of these experiments (2), having mixed a quantity of filtrate, obtained originally from the stool of a dysentery convalescent, with a culture of dysentery bacilli, I placed them in the incubator hoping thus to obtain a sort of "ripening," —a more intimate association between the two organisms. What was my astonishment on the following day to find the culture media perfectly clear.

In future years, as d'Herelle isolated and investigated bacteriophages of other pathogenic bacteria, he would always observe that he did so only from patients recovering, and never from those dying; other workers would not agree.

Following the initial report (3) which d'Herelle published in the 1917 *Comptes Rendus Académie des Sciences*, he and colleagues at the Institut Pasteur in Paris pursued the study of experimental and therapeutic aspects of "Bacteriophagum intestinale," as he termed it, after becoming convinced the lytic agent was a living parasite of bacteria (4). Apparently the earliest direct tests of the curative powers of dysentery bacteriophage were made by d'Herelle and M. Nadal at the Hôpital des Enfants Malades: five children were treated orally with a bacteriophage suspension tested for virulence on the "Bacillus dysenteriae Shiga" (i.e., now Shigella dysenteriae) isolated from the patients' stools. Strikingly, all the youngsters recovered and were discharged from the hospital!

Outside of d'Herelle's group in Paris, there was little interest in "Bacteriophagum intestinale" until d'Herelle in 1921 issued his first of several monographic summaries (5) of his research, both "basic"

[1] Edward Bell Krumbhaar Prize Essay VIII, Section on Medical History, The College of Physicians of Philadelphia, 1968.

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FIG. 1. Felix d'Herelle (1873–1949).

and "applied." *Le Bactériophage: Son rôle dans l'immunité* and its English translation which soon appeared contained the basic elements of d'Herelle's developing system of infectious disease and recovery, and—likely more stimulating to the medical community—the reports of the remarkable success enjoyed in the treatment of bacillary dysentery. In the next four years, no less than six hundred papers concerning one or another aspect of the bacteriophage phenomenom occupied the pages of medical journals from all parts of the world, a goodly number in those early days of the "literature explosion." José da Costa Cruz at the Instituto Oswaldo Cruz in Rio de Janeiro initiated trials of treatment of dysentery with bacteriophage shortly after reading d'Herelle's monograph, but could obtain no therapeutic effect at first. Within two years, however, many apparent successes had made him a devoted, though geographically distant disciple of the Canadian bacteriologist: "Here in Rio de Janeiro," he reported in 1921, "the method has been thoroughly tried out, and is today the routine method of treatment." Da Costa Cruz (6) even noted that in some cases the "rapidity of the recovery has been a cause of amazement." On the other hand, Wilburt C. Davison, at the Department of Pediatrics of Johns Hopkins, issued a paper (7) in 1922—displaying somewhat deplorable vagaries of dosage—which reported no noticeable effect of the phage in treating bacillary dysentery.

Other bacterial diseases were successively subjected to bacteriophage therapy in the early 1920's: Beckerich and Hauderoy treated typhoid and E. coli infections in France; Bruynoghe and Maisin, and Gratia—staphylococcus lesions in Belgium; Bazy in France and McKinley in the United States—wound infections (8). D'Herelle himself did some preliminary work with plague bacteriophage in Indo-China in 1920 and in Egypt in 1925. These names are mentioned for the primacy of their work: numerous physicians around the world followed them in the 1920's and later in treating disease with bacteriophage, accumulating a body of the most contradictory clinical literature conceivable. Every paper reporting exciting success could be matched by at least one noting dismal failure. Then in 1926 d'Herelle's *The Bacteriophage and Its Behavior* appeared, and this new and expanded summary, presenting most convincingly the apparent evidence for the worth of the novel therapy, further encouraged various workers, who in turn contributed still more confusing and conflicting findings.

The final major expansion of bacteriophage therapy was mainly begun by its perfervid advocate; d'Herelle, whose involvement with tropical medicine even pre-dated his bacteriophage work, once termed cholera his "favorite malady."

Finally, in 1928 d'Herelle, assisted by Major Malone of the Indian Medical Service and his staff, commenced a series of experiments in the villages of the Punjab (9). They first studied untreated patients to verify that the appearance of virulent anti-vibrio phage in the intestine corresponded with the occurrence of natural recovery. Supported by the findings, d'Herelle proceeded to treat cholera orally with bacteriophage preparations, but his theory of bacteriophagy pointed to even more profound benefit: "To cure disease once it has developed is not without interest," he later wrote about the cholera programs, "but to prevent the disease is still more important." So into each of the wells of Ghang, Nawar, and other villages of the Punjab members of Major Malone's staff poured "two ounces of virulent bacteriophage culture (10)." According to d'Herelle, this invariably succeeded in stopping incipient epidemics.

What was the "theory" or "system" of infectious disease and recovery which d'Herelle constructed upon the bacteriophage phenomenon? With the experiences with cholera in India providing, in the discoverer's mind, additional confirmatory evidence, d'Herelle published in 1930 his most definitive (though concise) statement of his ideas: *The Bacteriophage and its Clinical Application* (11). In it is summarized the author's concept of bacteriophage and disease.

Firstly, the bacteriophage (now "Protobios bacteriophagus") is a living, sub-cellular parasite of bacteria; as all higher forms of life are parasitized, so is the microscopic pathogen. Disease and recovery are functions of the dynamic interactions of three organisms: the bacteriophage, the bacterium, and the infected animal host. d'Herelle concludes (12):

> In brief, when bacteria and bacteriophage are brought together, one of three things will happen in accordance with the conditions present. The bacteriophage may destroy the bacteria; the bacteria may resist and destroy the bacteriophage; or, finally, an equilibrium may become established between the resistance of the bacteria and the virulence of the bacteriophage. In this last case, both survive and the bacteria contract a chronic disease, that is, a symbiosis is established. Such a state of equilibrium is, indeed, extremely frequent in nature.

These three possible outcomes correspond in the host animal to recovery from disease, death, and chronic disease. Recovery must be distinguished from immunity: the mechanisms for immunity from disease, whatever they may be, are in no way responsible for recovery once disease is manifest. Without doubt, in bacillary dysentery, cholera, plague, and presumably all bacterial diseases, bacteriophage is *the* means of recovery; the sub-cellular "protobe" must assume a "virulent" form which will lead to both lysis of the bacteria and will enhance phagocytosis (13). If the sufficiently virulent form does not emerge, the animal dies. Following recovery, the soluble remnants of the lysed bacteria stimulate the immunity mechanisms.

An epidemic represents the adaptation of a pathogen to a form resistant to the phage, but eventually the tinier microbe will in turn assume (mutate) a form virulent to the bacteria and the epidemic ends. Bacteriophage may be spread by means identical to those capable of disseminating pathogens; thus, an epidemic of disease is followed by an epidemic of cure! Finally, since bacteriophage is the mechanism of recovery from infectious disease, "... therapy with bacteriophage provides the specific therapy par excellence and, it might be said, the only possible natural specific therapy, for it is the exact experimental reproduction of the natural process of recovery (14)."

Such was the rôle of the bacteriophage in biology as viewed by its co-discoverer in 1930, a year which saw continuing trial of the new therapy. And by 1930 (and probably some years earlier) another factor was added to what was becoming an in-

creasingly controversial story—commercial exploitation.

While it is difficult to ascertain precisely when and which firms began producing and promoting bacteriophage products, at least three major American drug companies (15) included such preparations in their catalogues in the early 1930's. E. R. Squibb & Sons recommended its "Staphylococcus Bacteriophage Squibb Polyvalent" for "staphylococcus infections, particularly furuncles and carbuncles," claiming for it "an almost immediate effect in relieving pain." A twenty-cc. vial was priced at $3.50. Lilly Research Laboratories advertised "Bacterial Antigens in a Water-Soluble Jelly Base . . . for local application in the treatment of certain infections." "Staphylo-Jel," the catalogue assured, produces " . . . a marked diminution in the pain and soreness; the necrotic core liquefies rapidly and comes out easily; healing is prompt and scarring said to be less." Lilly explains its peculiar choice of a gel base in terms of convenience and efficiency; it is possible that this novel preparation was also seen as more patentable than a simple filtrate. Swan-Myers division of Abbott Laboratories also marketed bacteriophage preparations for staphlococcus and E. coli infections.

The Anglo-French Drug Company, an international corporation, seems to have been the major producer of bacteriophage products in the early 1930's. Its "Laboratoire de Bacteriophage" in Paris was founded by d'Herelle, though an advertising pamphlet explains the nature of the relationship (16). It reads:

> Since no personal profit was sought by Professor d'Herelle, and since it was desired that the Laboratory should retain a purely scientific character, Article 13 of the statutes of the Act of Foundation of the firm stipulates that the profits of the . . . [Bacteriophage] Laboratory . . . shall be devoted to scientific research.

Contrasting with this admirable statement is the undeniably mercantile plea several pages later: "When Prescribing Bacteriophages Specify Bacteriophage (d'Herelle) THE ORIGINAL BACTERIOPHAGE Supplied in Boxes of 10 Ampoules of 2 cc." Available from Anglo-French were "Bacté-Dysenteri-Phage," "Bacté-Pyo-Phage," 'Bacté-Coli-Phage," "Bacté-Intesti-Phage," "Bacté-Staphy-Phage," and "Bacté-Rhino-Phage."

The proliferation of commercial bacteriophage medicines was in part responsible for the first reliable evaluation of the whole bacteriophage therapy picture—that by the American Medical Association Council on Pharmacy and Chemistry late in 1934. Evidently the opposing voices of the claimants for and condemners of the heterodox new treatment had already several years before this succeeded in irritating the ears of many sincere and educated physicians. "There is a rapidly growing resentment and distrust of the whole bacteriophage promotion," wrote an A.M.A. editorialist in 1933 (17), "which certainly will delay final clinical evaluation." The influential British journal *Lancet* commented in 1932 that "the results obtained [from many trials of bacteriophage therapy] have been so contradictory as to suggest to the unbiased and non-technical observer that once again a vaunted remedy is under-going the slow and painful process of discredit (18). . . ."

This unhappiness with the developing story of phage therapy suggests that the 1934 A.M.A. report was timely and welcomed. The Council on Pharmacy and Chemistry, which had never "accepted" any of the bacteriophage remedies, comissioned two highly competent microbiologists, Monroe D. Eaton and Stanhope Bayne-Jones, to review the literature and evaluate the status of d'Herelle's treatment. Based upon what appears to be very adequate survey of the journal reports, the conclusions they reached were far from enthusiastic. The great majority of the clinical articles, they suggested, both pro

and con, are not reliable, invalidated by poor controls or small series of cases. Only in the treatment of focal staphylococcus disease and possibly bladder infection is the evidence at all convincing. Furthermore, experimental data from investigations using "artificial" disease in animals indicate that the bacteriophage phenomenon occurs only to a small extent or not at all in vivo—body fluids are apparently strongly inhibitory. Finally, proposed Eaton and Bayne-Jones, "The favorable results reported may have been due to the specific immunizing action of the bacterial proteins in the material used and to nonspecific effects of the broth (19)."

Though it is difficult to assess the influence of this report, it can at least be said that the late 1930's saw the beginning of the decline of bacteriophage therapy. At the First International Congress for Microbiology in 1930, d'Herelle delivered a typically forceful presentation of his theory (20); he did not participate in the larger Second Congress in 1936. Bacteriophage preparations remained in drug firms' catalogues, but towards the 1940's their antigenic rather than bacteriocidal aspect was emphasized. And perhaps most significantly, the number of journal reports dealing with bacteriophage therapy diminished substantially as 1940 approached.

In 1941, the A.M.A. Council on Pharmacy and Chemistry judged that it was time to re-evaluate bacteriophage therapy and to bring up to date the literature survey of 1934. Albert P. Kreuger and E. Jane Scribner were called upon to do this task and, like their predecessors, appear to have done a competent job. Their evaluation was actually somewhat more favorable than the earlier report, but they emphasized that there had still been no convincing demonstrations to finally support or discredit bacteriophage therapy.

While the medical community during the 1930's and 40's began somewhat to lose interest in his therapy, Felix d'Herelle, unceasingly confident, pursued several new and expansive projects. At the invitation of the government of the Soviet Union he left Yale University (where he had been Professor of Protobiology some years) in 1934 to establish bacteriophage laboratories in Tiflis, Kiev, and Kharkov (21). But in 1936 one of the purges then prevalent in Russia somehow resulted in the arrest and execution of Eliava, d'Herelle's old friend and colleague from the Institut Pasteur years; the Canadian bacteriologist returned to Paris. Here he prepared the final in his series of periodic monographic statements of his work and theories, *Le phénomène de la guérison dans les maladies infectieuses*, which was published in 1938. Though he continued his study of bacteriophage in a small laboratory in Paris, he published very little in the last decade of his life, and he died in 1949.

Perhaps the last significant paper concerned with bacteriophage therapy was a third and final evaluative report in 1945 by the A.M.A. Council on Pharmacy and Chemistry—but limited now to treatment of bacillary dysentery (22). The conclusions? The evidence for the effectiveness of bacteriophage in the treatment of bacillary dysentery—the ailment for which d'Herelle had first attempted treatment more than twenty-five years before—was as of 1945 still inconclusive though suggestive: more careful studies should certainly be done! They never were: sulfonamides and antibiotics served as the final forces in the demise of bacteriophage therapy.

II

How is it possible that after nearly thirty years of clinical trial, much of it reported in the journal literature, the worth of bacteriophage as therapy was neither convincingly established nor disproved? While it may be simply argued that the history of medicine demonstrates the reluctance with which valueless remedies

die (bloodletting, Homeopathy), the ambiguous verdict for bacteriophage therapy may be more specifically attributed to the peculiar nature of the diseases upon which it was tried, the geographical distribution of these diseases, and to the imperfect dissemination of the "scientific method" in the period between the two World Wars.

If it be recalled that the diseases treated with bacteriophage were mainly bacillary dysentery, cholera, and focal staphylococcus lesions, some of the problems in evaluating the treatment may be imagined. Bacillary dysentery and staphylococcus abscesses are mainly self-limiting diseases of low mortality; thus, even a truly valid remedy would not be expected to yield spectacular, persuasively dramatic effects. Dysentery presents certain diagnostic problems "in the field," another potential source of confusion. Cholera is perhaps more readily diagnosed and can certainly be lethal if not properly treated, but like dysentery and plague occurs in large numbers in tropical areas not conducive to the most careful, impartial studies (23)—as Martin Arrowsmith harshly learned!

With these difficulties sympathetically appreciated, the failings of the bacteriophage therapists as scientists may be considered. As the comtemporary evaluations pointed out, most of the reports—pro and con—show small numbers of studied cases and poor or no controls. Often faulty supervision of treatment and other errors invalidated the findings. To illustrate, we can select several papers which are by no means among the worst offenders. Morison and Vardon (24) published "A Cholera and Dysentery Bacteriophage" in the 1929 Indian Journal of Medical Research. These workers discussed twenty-seven cases of cholera; of twenty-one not receiving phage, sixteen died, but of the six given phage, only one died—suggestive, yet the numbers are too few. "The first case in which we had an opportunity to test the bacteriophage," writes Morison,

> was admitted to the Military Hospital under Captain Rosenbloom, I.M.S., with severe vomitting, large frequent rice-water stools, cramps and collapse. He was given intravenous hypertonic saline to which 2 cc. of bacteriophage was added and received 2 cc. of bacteriophage in water by the mouth every four hours. Within 18 hours he had recovered and appeared so well that a diagnosis of cholera was doubted. Cholera vibrios, strain J., were recovered from his stool on the first day of the illness.

This clinician has given the bacteriophage by two different routes, in conjunction with other treatment (intravenous saline), and then it is not entirely certain that the case was cholera!

Also in 1929, Compton reported his success with bacteriophage therapy in sixty-six cases of bacillary dysentery in Alexandria, Egypt (25). He distributed the phage with a "circular instructing the patient on the use of the phage" and a "questionnaire to the doctor" (local practitioners were intermediates). The sixty-six cases turn out to represent those cooperative sufferers who bothered to return the form out of a total of two-hundred treated patients. Compton assumed all the others were cured, since if the disease had persisted, they would have returned to their doctor! In fairness to Morison, Compton, and by implication many others, it must be emphasized that those physicians reporting *no* success were about equally guilty of these methodological "errors."

If this seeming ignorance of the practices of the "scientific method" appears inconsistent with twentieth century medicine, the contradiction is partially resolved by merely accepting the fact of gradualness. In very general terms, the basis for modern quantitative and objective medical study was provided in the nineteenth century laboratories of such men as Bernard, Ludwig, and Loeb; the extension of their methods and ideals from the realm of "basic sciences" into

clinical medicine and therapeutics has been the slow and still incomplete task of the present century. Often this extension depends on nothing more or less than the individual physician, in school or if need be later, learning the necessary conventions and the use of statistics—just as Martin Arrowsmith had to acquire calculus and physical chemistry to satisfy his teacher, Max Gottlieb. Unhappily, the practitioners who applied bacteriophage therapy and reported their results in the 1920's and 1930's were on the whole incompletely educated in the needed "new" practices. Though probably neither unaware of nor hostile to the ideas of controls and quantitative expression, they did not know how to apply them: as a result, their conclusions were too often meaningless. And in fact it must be said that the spectacular cures of the bacteriophage therapists were classic "artifacts"—illusions of their own unaware creation (26).

Felix-Hubert d'Herelle, the most zealous and unyielding advocate of his own therapy, emerges as a paradoxical figure. Though seen by his colleagues as a methodical, disciplined bacteriologist, he was guilty, not so much of performing invalid studies, but of accepting those of others perhaps a little too indiscriminately. Furthermore, the reader of his periodic monographs—summary statements of his work and theory—is struck by an unfailing didacticism and oppressive singlemindedness. Fairly typical is his estimation of his impact of bacteriophagy in the preface (27) to the 1930 version:

> As the last century closed—that period of blissful satisfaction—the biologists also had erected a splendid structure into the foundations of which they had harmoniously interlocked the cellular theory of life, the theory of the fixity of bacterial species and that of the "antibodies" ornamented with "side-chains" such as would explain recovery and all immunity. Suddenly bacteriophagy made its appearance. The structure could not support the added weight of the new facts: it crumbled. The cellular theory of life is manifestly false, for life is an attribute of infracellular particles. The antibodies play no part in the phenomena of recovery. The form and the properties of bacteria are inherently variable characters.

Frankly, d'Herelle seems now almost more a throwback to the nineteenth century—the "period of blissful satisfaction," as he termed it—than a member of the scientifically sophisticated twentieth century—the period of the cautiously qualified claim. Both his bold and unequivocal assurances of cure and his heroic development of an entire revolutionary system upon one series of observations seem oddly foreign to modern medical procedure. Coming as it did while Ehrlich and his followers were gradually building the science of immunology, d'Herelle's proposal of a heterodox, completely-contained bacteriophagic theory of disease and recovery was almost atavistic. Perhaps Felix d'Herelle, like those practitioners who tested his therapy, was a kind of transition figure. Not quite twentieth century, he had learned the methods and conventions of the new century's science, but retained from an earlier era of medicine an uninhibited sense of personal assertion.

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3. D'HERELLE, F.: Sur un microbe invisible antagoniste des *bacilles dysenteriques.* Comptes Rendus Acad. Sci. 165: 373, 1917.
4. d'Herelle later assigned the name "Protobios bacteriophagus" when the phenomenon was seen to extend beyond only enteric bacteria. Years

later, the drug firms were unjustifiably accused of coining the term "bacteriophage" in order to convey the idea of a bacteriocidal action.

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7. Davison, W. C.: The bacteriolysant therapy of bacillary dysentery in children. Am. J. Dis. Children 23: 531, 1922.
8. *See* d'Herelle, 1926, English edition, chapter 6.
9. This extensive work was fully reported in a large monograph:
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10. *See* d'Herelle, 1930, chapter 5.
11. Note 5.
12. d'Herelle, 1930, p. 237.
13. It was fairly widely believed that bacteriophage in the blood had an opsonic effect.
14. d'Herelle, 1930, p. 242.
15. The following sources provided information about the commercial bacteriophages:
    Straub, Margaret E., and Applebaum, Martha: Studies on commercial bacteriophage products. J.A.M.A. 100: 110, 1933.
    E. R. Squibb & Sons: *Physician's Reference Book of Squibb Biological Products and Pharmaceutical Specialties.* New Brunswick, N.J., 1935 and 1941.
    Lilly Research Laboratories: *Distinctive Products.* Indianapolis, 1932.
    Eli Lilly & Co.: *De re medicina.* Indianapolis, 1938, 1941, 1951. (This is just a catalogue of products.)
    Anglo-French Drug Co.: *Therapeutic Uses of Bacteriophage (d'Herelle).* [New York, 1932?] (An undated advertising pamphlet, probably 1932.)
16. Note 15.
17. Commercial Aspects of Bacteriophage Therapy. (editorial). J.A.M.A. 100: 1603, 1933. (Other interesting J.A.M.A. editorials, both titled, "Limitations of Bacteriophage Therapy," may be found in J.A.M.A. 96: 693, 1931, and 98: 1190, 1932.)
18. [Editorial comment] Lancet 2: 198, 1932.
19. Eaton, M. D., and Bayne-Jones, S.: Bacteriophage Therapy. Special Report of the Council on Pharmacy and Chemistry. J.A.M.A. 103: 1769–76, 1847–53, 1934–9; 1934.
    The later A.M.A. Council on Pharmacy and Chemistry reports discussed are:
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    Morton, Harry E., and Engley, Frank B.: Dysentery Bacteriophage. Review of the literature on its prophylactic and therapeutic uses in man and in experimental infections in animals. J.A.M.A. 127: 584, 1945.
20. *E.g.:* "... l'allure et la guérison des maladies infectieuses chez l'individu isolé, aussi bien que la marche et la cessation des épidémies, sont sous sa dependance directe." (from 1er Congres International de Microbiologie: Résumés de Rapports, Conférence et Demonstrations. Paris, 1930.)
21. The Russians continued experimenting with bacteriophage therapy long after the rest of the world had given up, actually into the late 1940's. They published several articles during World War II reporting treatment of battlefield wound infections with phage.
22. Note 19.
23. As one bacteriophage therapist in India wrote: "In a disease so fatal as cholera, the evaluation of the use of bacteriophage on alternate cases in villages is not possible. It would certainly result in a riot should one form of treatment seem less efficacious than another."
24. Morison, J., and Vardon, A. C.: A cholera and dysentery bacteriophage. Ind. J. Med. Res. 17: 48, 1929.
25. Compton, A.: Antidysentery phage bacteriophage in treatment of bacillary dysentery; record of 66 cases treated, with inferences. Lancet 2: 273, 1929.
26. Though therapeutic application of bacteriophage proved valueless, its later use in typing and genetic research has lent enormous importance to the discovery of Twort and d'Herelle.
27. *See* d'Herelle, 1930, preface, p. v–vi.

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The Public Practice of Midwifery in Philadelphia

By W. ROBERT PENMAN, M.D.[1]

IN Philadelphia, Pennsylvania, in 1835, pregnant poor women had extreme difficulty in obtaining any kind of care for their confinements.

At that time in the city, there were only two institutions offering "public" service to the poor: the Lying-In Department of the Pennsylvania Hospital and the Philadelphia Almshouse (or "Blockley," as it was sometimes called after it moved to its present location in Blockley Township in 1834).

Both institutions had limited facilities and could not service the needs of the poor women of Philadelphia, nor did these institutions have the confidence of the poor. People knew that when women went there for their confinements they might die from puerperal infection or "child bed fever." Those who could not avail themselves of the public service of these two institutions might be cared for by the Philadelphia Lying-In Charity, established in 1828 by Dr. Joseph Warrington[2]. Several small dispensaries, including the Philadelphia Dispensary, arranged for doctors to deliver women in their homes. The poor were thus badly cared for, and dedicated physicians of Philadelphia were profoundly disturbed.

Dr. Jonas Preston was one of the leaders in the movement to correct this situation. Born in Chester County, Pennsylvania, in 1764, the son of a Quaker physician, he was instructed in the practice of medicine by Dr. Thomas Bond of Philadelphia and became a successful practitioner of midwifery in Chester, Pennsylvania, later moving to Philadelphia in 1812. He was a member of the legislature for many years, serving both in the Assembly and the Senate. After moving to Philadelphia, he took an active interest in several institutions in the city, such as the Pennsylvania Hospital, Friends Asylum, Penn Bank, and the Schuylkill Navigation Company. He was an excellent and shrewd businessman and was able to amass a substantial fortune through wise investments, in real estate and other ventures, of his own money and his wife's inheritance. He was very active in the Schuylkill Navigation Company and also had extensive real estate holdings in Norristown, Pennsylvania (1, 2). In his will made out in 1834, he noted the desperate plight of the poor pregnant women of the city and stated "that there ought to be a lying-in hospital in the city of Philadelphia for indigent married women of good character distinct and unconnected with any other hospital where such females may be received and be provided with proper obstetric aid for delivery, etc." (3).

He bequeathed a sum of four hundred thousand dollars for the founding of such an institution. He died in 1836, and immediately the trustees of the will attempted to implement his directive. In order to obtain the experience and the advantages of the lying-in hospitals of Europe, the Board of Managers hired Dr. James Bryan to go to Europe for such a

[1] 20 State Road, Paoli, Pennsylvania 19301.

[2] Joseph Warrington, M.D., (1805–88) received his medical degree at the University of Pennsylvania in 1828. In addition to organizing the Lying-In Charity of Philadelphia, Warrington wrote treatises on nursing (1839) and obstetrics (1842). See also Henry, F. P.: *Standard History of the Medical Profession of Philadelphia*. Chicago, Illinois, 1897, p. 420.

survey[3] at a cost of $500 (4). The trustees, cognizant of the vastness of the problem and also aware of their ignorance of the situation, had on August 2, 1836, requested by letter that a committee of physicians from The College of Physicians of Philadelphia be appointed to investigate the subject and make recommendations for the proper construction of a lying-in hospital. The committee of the "Preston Retreat" consisted of John M. Ogden, John M. Frailey, James Martin, Philip Price, and Samuel Maydoch. The College of Physicians immediately appointed a Standing Committee on Midwifery, with Charles D. Meigs[4], Chairman, and Doctors Ruan[5], Huston[6], and Gebhard[7], members. This committee replied to the Preston Retreat on November 15, 1836 (5).

The report is cogent, thorough and timely. The correspondence and the report of The College of Physicians are printed here in their entirety.

TO THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Respected Friends:

The undersigned are a committee of the Preston Retreat, to procure plans for a suitable building or buildings for that institution. They are fully impressed with the importance of so constructing the Hospital as most effectually to guard against the spread of those diseases to which females are liable during the period of their confinement. In order to perform the responsible duty devolved upon them in the best manner the committee are anxious to receive all the information that can be imparted by those who have had experience and occasion to reflect upon the subject of their enquiry. By the Medical Faculty they must chiefly expect to be enlightened, and they appeal to you as an organized body of the Profession, from whom they may expect the most important suggestions to guide them to their conclusions. The lot that has been selected for the Preston Retreat is a large square of ground, upwards of 490 feet in length by upwards of 417 feet in width, with wide streets on two sides, the lot and surrounding streets comprising an open area of more than eight acres, on a high gravel soil that will secure dry foundations. The main building will face southward on Hamilton Street between Schuylkill, Second, and Third Streets.

We most respectfully ask of you to (give) the subject your careful attention and shall be grateful for all the light you may shed upon it.

We are very respectfully,
Your friends
John M. Ogden,
John M. Frailey,
James Martin,
Philip M. Price,
Samual Maydoch,

8 mo (Augt) 2, 1836

* * *

Philadelphia, Dec. 5, 1836

Dear Sir:

I beg leave to hand you, for the Trustees of the Preston Retreat, a report of a committee of The College of Physicians, of Philadelphia. The Committee consist of Drs. Meigs, Ruan, Huston, and Gebhard. The report was drawn up in obedience to a resolution of the college; and when considered, at the Meeting held on the 15th of last month, it was directed to be presented to your Trustees, and accompanied with such verbal explanations as we might deem expedient.

At the same meeting, the following resolution was passed, and directed to be handed to the Trustees of the Preston Retreat. "Resolved, that this college recommend to the Trustees of the Preston Retreat, the erection of a principal building for offices etc., with one or more flank buildings for the accomodation of patients, detached from the main building; to consist of a range of rooms, open back and front, so as to allow of the most ventilation."

Should the Trustees of the Preston Retreat think

[3] The Bryan report was made after the Meigs report. Bryan investigated European hospitals in 1838–40, sending back multiple reports. He also supplied comments while the building was being erected. He became professor of surgery at the medical school in Castleton, Vermont, from 1840–44.

[4] Charles D. Meigs, M.D., (1792–1869) received his medical degree at the University of Pennsylvania in 1817 and went on to become professor of obstetrics and diseases of children at Jefferson Medical College. He was also famous as an adversary of Oliver Wendell Holmes. See Kelly, H. A., and Burrage, W. L.: *American Medical Biographies.* Baltimore, 1920, p. 777.

[5] John Ruan, M.D., (1771–1845) received his medical degree at Edinburgh, Scotland.

[6] Robert Huston, M.D., (1794–1864) received his medical degree at the University of Pennsylvania in 1825 and held Meigs' position in 1838.

[7] Lewis Gebhard, M.D., (1791–1873) received his medical degree at the University of Pennsylvania in 1813.

proper to ask for verbal explanations, I shall thank you to signify their wishes to me; when I shall take pleasure in calling our committee together for that purpose.

I am, dear Sirs,
with the greatest respect,
Your obedient servant,
Ch. D. Meigs,

To Mr. Ogden

COLLEGE OF PHYSICIANS

Philadelphia, Nov. 15, 1835

The Committee of the College, to whom was referred a letter from John M. Ogden and others, a committee of the Preston Retreat Society, report that,

The benevolent Founder of the Lying-In Hospital, about to be erected in our City, was desirous that the Charity which bears his name, should furnish to parturient women, not only all the aids that are esteemed indispensable for their security and comfort, whilst in travail, and the care and watchfulness over them, required during the period of convalescence; but also, an immunity, as far as practicable, from those disorders that are most likely to spread, in similar institutions, and which have rendered many of them Pest Houses, rather than Asylums, or Retreats from the dangers and anxieties of the puerperal state.

In constructing a house, or houses for the use of Dr. Preston's Retreat, it was thought incumbent on the gentlemen charged with that important trust, to inquire into the sources and causes of danger to women congregated in such establishments; and they have, accordingly, applied to the College, as a Corporate Scientific Body, to whom they might, with confidence look for correct and judicious opinions upon the subject. It would be easy to reply to the inquiry thus addressed to the college, in a few words; and it would probably be the unanimous opinion of the body that the disorder most sedulously to be guarded against, as such as are found to arise from the collecting a great number of puerperal women within the walls, and under the one roof, of the same building; and such as depend upon keeping a lying-in apartment always occupied without intervals of time during which it ought to be completely vacated, cleansed, and ventilated; and further that the disease which is esteemed to be most dangerous, and most likely to spread is Puerperal Fever, better known to the public by the title of Child Bed Fever.

Notwithstanding this disorder is in its nature most dangerous and the consideration of it alone, would demand the wisest precautions against its introduction and spread in the hospital, there are several other maladies, that may, upon occasions, get footing in a badly constructed hospital, and become productive of extreme distress, and even of great mortality; particularly, if all the wards should be covered by the same roof, and admit not of a complete isolation and purification. It is sufficient, in this connection to mention scarlet fever, whooping cough, measles, varioloid, and Trismus of infants, and of which by spreading among the inmates, would serve to bring reproach upon the Foundation, diminish its usefullness, and cause many to fall victims, who might escape, but for the misfortune of having entered an ill constructed retreat from dangers which they might avoid at their own homes: Such diseases might be rife in the hospital, without any extensive prevalence of them among the other population of the city. Great good can be done in this community by furnishing to the inmates of the Preston Retreat, all the aids and comforts appropriate to their condition, and the true design of the worthy founder will in so far be fully attained and fulfilled; but if a faulty plan should be adopted, the attack and spread of dangerous diseases will be so far invited and promoted, that their occasional appearance there in, will be inevitable, the *Will* defeated, and his munificence become an injury and a mockery to the poor, rather than a great blessing as he most piously and humanly desired.

Under what circumstances then, are parturient women found to be most secure from the dangers of Childbirth? It is invariably admitted that parturition is accompanied with very little mortality in private practise. The mortality varies according to the season, as healthy or sickly, and to the range of the cases, as occuring in the higher, the middleing, or the lower walks of life; being greatest in the latter, on account of the want of many comforts, or necessaries as to lodgings, food, clothing, ventilation, etc.; but, in all these walks, the security is very great in private practise.

The contrary obtains, where many women are confined under the same roof; or where they follow each other in constant succession as tenants of the same wards of a hospital; for not only is there, under such circumstances, a great proneness in the women to be affected with childbed fever; but, the infants of the house are also the frequent victims of Trismus, or nine day fits. These disorders are not only more common, but far more fatal and unmanagable, in the hospital, than in private practise; and can only be effectively obviated or prevented in the very place, and design, for the erection of the hospital.

In as much, therefore, as private confinements are safest both for mother and their tender offspring, it is impressed upon your committee as one of the most important and evident facts in this relation, that all lying-in establishments ought to be made as far as possible, conformable in respect to comfort

and security, to the private dwelling, and dispense all the advantages of the accouchement at home. They consider that no cleanliness, no mere ventilation, no regulations, should be deemed sufficient guarantees against the introduction and spread of puerperal fever in a great Lying-In Hospital, all the wards of which are included with in the same walls, and even by the same roof. There is sufficient both of reason and authority, to convince us, that, the poisonous air once generated in the house, passes along the corridors ascends the stairway and infects the building from the basement to the highest stories. Without pretending to determine what is the nature of the poisonous exhalation, or whether indeed, it be a substantive poison that produces these effects, past experience warns us of profuse dangers, and exhorts us, when about to lay a new foundation, for the benefit of succeeding generations, to attend to the dictates of reason and prudence and to depart from the old and vicious methods, by adopting a new one likely to make the house forever secure from the common reproach of similiar institutions. Your Committee are free to say that the Preston Hospital ought never to deserve the name of Pest House, considering the light possessed upon the subject at the present day, and the ample means appropriated for its erection on an improved plan.

In addition to setting forth the advantages of private practise as to the greater security of patients it behooves the Committee to lay before the College some statements of the results of the Public, or Hospital practise of midwifery and for this end they beg leave to submit the following table which they have taken from the valuable publication recently made by Dr. Collins, late Master of the Dublin Lying-In Hospital. It comprises a statement of the causes of death, in one hundred sixty four women, who died there, out of sixteen thousand four hundred and fourteen females delivered in the house, during the seven years of Dr. Collins' Mastership.

From Dr. Collins' table it appears that fifty nine out of the one hundred and sixty four deaths, more than one third of the mortality were occasioned by puerperal fever alone; and that, during a period when no very great or extraordinary prevalence of the malady existed, Dr. Collins remarks that, of the 16,414 women delivered, one hundred sixty four died, or one in a hundred; but, he says that if we deduct the deaths from puerperal fever which may be considered accidental, the proportion is greatly diminished; viz. to one in one hundred fifty deliveries; and again, if we abstract those deaths from causes, not the results of child birth, marked x thus in the Table, the mortality from effects arising in consequence of parturition is reduced to one in two hundred forty four cases.

The Committee think that the data obtained in the above Table are highly worthy of the attention

TABLE

x	Diarrhoea	1
x	Typhus Fever	5
	Rupture of uterus or vagina	32
	Uterine Hemorrhage	11
x	Puerperal Fever	59
x	Inflammation of Brain	3
x	Ulceration of Intestines	3
x	Hectic fever	1
x	Grief, apparently	2
x	Stricture of intestines	1
	Effect of tedious and difficult labor	11
	Convulsions	2
x	Hydrothorax	2
x	Pericarditis	1
	Peritoneal Inflamm	
	The Placenta retained	4
x	Abcess in Spinal Canal	1
x	Lumbar abcess	1
x	Phthisis	2
x	Acute bronchitis	1
x	Anomalous disease	12
x	Diffuse inflammation	1
x	Abcess in Abdoman	2
	Sloughing of vagina	6

of the Preston Retreat Society as obtained in a hospital acknowledged, in general, to be the most admirably managed and it might suffice for the purpose of their information were it not that other places and institutions have been less fortunate.

For example, in the years 1819 and 1820 there were delivered in the Maternite at Paris 4924 of whom 1177 were attacked with puerperal fever, nearly half of which cases proved fatal. Tenon, who has written a memoir on the Hospital of Paris, shows that in the Hotel Dieu, from Jan. 1, 1779 to Dec. 31, 1780 there died one in fifteen and two thirds of the women delivered in that hospital.

The younger Baudelocque has also calculated the mortality of the Maison de Accouchements for a period of 11 years from Jan. 1, 1814 to Dec. 31, 1824, and informs us, that, one woman died out of somewhat less than every 22 delivered. According to the same author, the mortality was nearly the same for several other periods; for example in 31 years, there were confined at the Maison de Accouchements 61,647 of whom 2777 died, or one in twenty one and a fraction.

In a printed abstract of the Registry kept at the Lying-In Hospital in Dublin, we observe that from Dec. 8, 1757 to Dec. 31, 1828, there were admitted 123, 790 women of whom 1420 died or one death in eighty nine admissions.

There are numerous statements of average mor-

tality, and of mortality under peculiar circumstances which it would be useless and tedious to cite here; but, we shall not overlook a pamphlet entitled, "Some Accounts of the Pennsylvania Hospital," in one of the pages of which we learn that, the Lying-In Department of that house as established in 1803, and that up to the 28th of April 1832, there had been admitted 747 women, 54 of whom left the house undelivered making a total of 693 women delivered in that Department. Of those women 35 died; or one in 19 4/5 nearly, of all the patients.

These calculations of Hospital results, are extremely important but we think that an inference particularly instructive may be drawn from the astonishing difference in the Dublin and Philadelphia Houses; it is this, that where many sick individuals are congregated under the same roof, disease is prone to break out, and spread among them, and prove rebellious under medical treatment. It is not improbable, that the epidemics of puerperal fever, that have on several occasions, desolated the Lying-In Ward of the Pennsylvania Hospital may be satisfactorily traced to some connexion with Erysipelas, which at times is found to infest the wards of that Establishment; evincing an impure state of the air under that roof, notwithstanding the greatest precautions that are there adopted, on the subject of cleanliness and ventilation, equal, perhaps, to what are found in the best private dwellings. The whole number of persons under medical and surgical treatment there is ordinarily rising of two hundred, and the erysipelas which occasionally afflicts them, is on reasonable grounds, suspected of having a cause, common to it, and to the child bed fever.

To show how far the congregation of many patients within the same enclosure may, by inference, be accused of producing very pernicious tendencies among them, it may be properly mentioned here, that the Dublin Lying-In Hospital is thought to be one of the best institutions of the kind in the world. The building is of three stories, each floor divided by a spacious corridor, extending through the house, length wise and bisected by the stair ways; which gives twelve large wards, each provided with 8 or 10 beds. There are two other small wards at the end of the edifice. Now, this house, tho capacious, admirably ventilated and scrupulously clean, has been the seat of the most fatal epidemics of Child Bed Fever. That disease has prevailed there, in the years, 1767, 1774, 87, 88, 1803, 10, 11, 12, 13, 18, 19, 20, 23, 26, 28, and 29. In the epidemics of 1819 and 1820 alone, there died, 114 women.

All experience indeed, goes to confirm the opinion that a great many lying-in women ought not to be assembled in one building; and that pregnant females ought not to continue inmates of wards containing the occult causes that predispose them to the assault of the disease in question. Universal experience teaches, further, that once established in the wards the causes can not be easily ejected or eradicated, by washing or scrubbing, by chlorine, by fumigation, by painting, lime, washing, nor, in short, by any known means except the vacation of the apartments, and the suspension of its usefullness for a greater or less duration of time—such a room is forbidden ground for pregnant women; if they inhabit it, they acquire in it the fatal predisposition whose development and lethal powers, only demand the throes and excitement of labour, or some of the slight affections generally ensueing childbirth.

It is well known here, that this predisposition has been fatal in the Pennsylvania Hospital, and the cause so previously seated in the Lying-In Wards, that they have on several occasions been, through necessity, entirely closed against patients for a long time together. Thus suspending the functions of Charity. The disease has reappeared among the first admissions and the Managers, most wisely and humanly, at length resolved to place the Lying-In Departments in a separate building—which is the reason why patients have now for some time been accommodated pleasantly and we hope safely, in the basement story of the West's Picture House.

Your Committee do not esteem it, apart of their duty, further to review the history of Epidemic Puerperal Fever. They conceive it to be a settled opinion among medical men that child bed fever and Trismus are the bane of such establishments, and are prone to excessive violence in proportion to the want of fresh air, the absence of cleanliness, and the populousness of the wards that are formed under a single roof. It would be an easy task for them to detail the melancholy history of the malady, but, the Table representing the causes of death in the 104 victims at Dublin, already submitted leaves perhaps, with sufficient cleanness to set forth what are the ordinary disorders attendant on parturition and what important influences may be exerted in favor of the patients, by a judicious arrangement of the house, in its original plan.

A few reflections upon the probable wants of our community in reference to the comfort and protection of poor lying-in women, seem to us so opportune for the present occasion, that we shall seize it to lay before the College our views in relation thereto.

There are but two lying-in Hospitals in Philadelphia, one of which is the Lying-In Department of the Pennsylvania Hospital and the other the Lying-In Wards of the Philadelphia Almshouse. There should be taken, also, into consideration the Philadelphia Lying-In Charity, which provides for attendance upon sick at their own houses; and some females are relieved by the several dispensaries, upon application made at their offices.

The Pennsylvania Hospital and the Almshouse relieve about one hundred and fifty annually and the other institutions above named probably relieve an equal number; so that it appears the Public Charity of Philadelphia caters to about 300 women in labour per annum.

The total number of children born here in A.D. 1835 was 7856, as ascertained from the returns to the Health Office, made by 170 practitioners of midwifery. Computing then, that there were delivered in that year 7856 women, the 170 practitioners would each have 40 obstetric cases per year, if they were equally divided among them; but, some medical persons have 200 patients per year, others 100, 90, 70, etc., leaving to many of their bretheren but a few cases in that branch of practise, for which so eager a competition exists, and which is supposed to lead to the highest success in medicine, more certainly than any other department of practise. It is supposedly under such circumstances, that puerperal women will often be left to suffer for the comforts and aids that professional men alone can give, or that many examples will be found in this community of women applying in vain for medical assistance in the trying hours of travail or in a subsequent confinement and indisposition, or illness. We are too well acquainted with the liberality of our brethren to suppose it possible.

To show that our poor do not lack for assistance on these occasions, it is sufficient to state that, the comforts and accomodations of the Lying-In Department of the Pennsylvania Hospital great as they are, are yet incapable of attracting more than about 60 women there in each year, which could not be the case were the wants of that class of patients more pressing than they are at present.

Let the above specified circumstances have due weight, and they will convince the College that the new Hospital will not, probably, be crowded with patients for some years to come; and consequently, will not for some time require the erection of very expensive buildings; considering too, that complete isolation of the wards affords the surest means of obviating the spread of disease; that, if the disease should epidemically attack the inmates, it could only be eradicated by closing the house for a season, thus interrupting or suspending the Charity (supposing it to be contained in a single house). Lastly considering that many years must elapse before the demand for aid shall become clamorous, in this community, we feel convinced, that, if guided only by views of the personal accommodation of each woman we ought to recommend the construction of a number of small houses, so as to give each woman a separate lodge. Such a plan as this, however, we can not bring ourselves to recommend in the present instance, for many reasons, in addition to those connected with the greater expensiveness of such a method. There may be several good methods of arranging the Hospital buildings, either of which could with propriety be selected by the Preston Society.

The Committee, not being in possession of the requisite knowledge and taste in Architecture, have had conversations with an eminent person in that profession in order to ascertain whether the most fastidious taste could not be fully gratified in the erection of several small buildings, instead of one principal structure. They were pleased to learn that a good architectural design would not be incompatible with the erection of a central building, on the south front of the lot, and of several detached edifices on a line with it ranging east and west. These buildings might be 38 by 40 feet square, two stories high, with marble fronts, divided by a blank wall from north to south, giving four rooms on each floor, communicating by a door between the north and the south rooms, but admitting of no communication between the east and west room. Piazzas on the northwest, north, and northeast sides of the buildings would afford a sufficient promenade for the patients, and admit of a convenient access to the upper floor without any direct communication of the lower with the upper wards.

The west, north, and east windows should be constructed so as to open out on the piazzas, by opening on hinges, with ventilation shutters on the outside. The south windows should be made in the ordinary manner of constructing sash. A center building might be used as office–residence for the Steward and Matron, and apartments for women waiting for the period of their pregnancy and for other purposes. With one center building, and two out buildings of the form and size indicated, the hospital could go into early operation. The out buildings would cost 5,000 dollars each; and the principal edifice could also be constructed for a moderate sum if divested of useless moment.

Each out building would accommodate 16 patients, having eight wards, in each of which two patients would be accommodated. As the north and south wards would communicate with each other by a door, one nurse could conveniently take care of four women and four children. Eight nurses therefore, would serve the whole hospital, even supposing two out buildings to be completed and to contain as many as 32 women and an equal number of children. It is highly probable, however, that a smaller number would suffice for years to come.

Should the above plan be adopted, it is reasonable to conclude that if well administered, it could for ever be kept free from the epidemic which is most to be feared and guarded against. A perfect security would probably follow that adoption of the method now used at the Dublin Hospital—

videl. The wards should be numbered 1 to 16, and used in succession, no ward to be made use of after having received and discharged its confinement, until every other ward, has been likewise filled and emptied. During the time of each apartment being unoccupied, it could be thoroughly cleaned and ventilated, and freed from all infections or miasmatic exhalations—or it could be sequestered from the establishment for weeks or months, without interfering with or in any wise suspending the general and beneficient functions of the whole Charity.

The lot on Hamilton Street is large enough to admit in future times, of the construction of ranges of separate buildings on each of its sides, sufficient in number to accommodate the poor lying-in women of an immense capitol.

If that lot should retain its present lofty elevation, instead of being reduced to the common level, its sides might be supported by a wall of stone, and the buildings could then have for their site a noble terrace, which would raise them above all the surrounding edifices, exposing them to the fresh ventilation and presenting a most attractive spectacle in their simplicity, symmetry and order, as well as the beauty of the material of their several fronts. The centre would compose a court or garden adorned with trees, shrubs, and grass, both conducive to the beauty, salubriousness, and comforts of the institution. Such an Hospital would be highly attractive to the better set of poor patients; it would be healthy, private, easily administered; without the noise and confusion of a single edifice; cheap in construction, and capable of a gradual extension, proportion to the increasing wants of the community in future years or generations and leaving an ample remainder of the Preston legacy, for the entire comforting and accommodation of the sick.

Should the Committe of the Preston Society on the other hand resolve to build a single house; then the committee recommends the adoption of a plan similar to that of the City Hospital on Bush Hill; have a principal building with detached wings, two stories high and 20 or 22 feet in depth, admitting of the erection of a number of wards of 17 or 18 feet by 20 or 22 feet—the south front provided with piazzas, above and below as is observed at the City Hospital.

A Hospital erected on this plan presents many advantages as to accessibility and the desirable isolation by means of blank walls carried up from the cellars to the roof, being each alternate ward—which ever of the methods may be chosen. Your committee will feel satisfied that the Directors will have acted with wisdom and humanity, in adopting in either case a method that must most certainly obviate the shocking occurance of epidemic puerperal fever, which no medical or other person, who has witnessed such an indomitable disorder, could think of with out discomposure.

Your Committee having laid before you what they consider correct principals in the important questions submitted to their consideration deem that their task is now fulfilled, without entering into many minute details, as to the arrangement or placing of doors, windows, fireplaces, etc., etc.. They will find themselves at all times happy, in being enabled to give their opinions upon those subjects, if invited to do so by the Preston Retreat Committee.

Which is respectfully submitted.

Charles D. Meigs, Jr., Chairman
The Standing Committee on Midwifery

The Board of Contributors of the Preston Retreat whole-heartedly accepted the report of the Standing Committee on Midwifery of The College of Physicians and began to implement it immediately. On June 13, 1836, the Preston Retreat Bill was presented to the Senate in Harrisburg, Pennsylvania. The Senate and House of Representatives in the General Assembly in Harrisburg appointed 114 members to the Board of the Preston Retreat and incorporated it as a Society. The members had to pay $5.00 per year or $30.00 as a life contribution. The affairs of the Institution were to be conducted by a Board of Managers of 24 Contributors to be elected annually by ballot the second Monday in January of each year. The Board of Managers, in turn, were to appoint a Visiting Committee of twelve respectable females from the City and County of Philadelphia and the County of Delaware. This committee had power to select and remove physicians, nurses and other assistants from the Institution.

The ground upon which the Preston Retreat was to be built was purchased on August 1, 1836 from John McAllister for $37,000. It consisted of eight acres and was between Hamilton and Morris Streets, the Schuylkill River and Third Street in the District of Spring Garden. John Sergeant was the lawyer handling the transactions for the Preston Estate. Four architects

were invited to submit plans for the Retreat. On February 20, 1837 the Preston Board appointed Thomas U. Walter to be the architect, and the Standing Committee on Midwifery of The College of Physicians under the Chairmanship of Charles D. Meigs accepted the design. The cornerstone was laid on July 17, 1837.

Construction was immediately delayed because the marble from the Chester County Quarries, "where it is required to be obtained," was in not large enough supply. Patience was needed, for by 1840 the Retreat was still under construction and had cost $80,000.

The estate to create the Preston Retreat came in part from the sale of lands of St. John's Church in Norristown, Pennsylvania, and from other securities. Most of the stock was in the Schuylkill Navigation Company which failed in the 1840's. Because of the ensuing lack of funds, the Retreat was not finished nor opened until 1865. In January of 1865 the Board of Managers sold 25,000 shares of stock in the Schuylkill Navigation Company at $1.00 per share, netting $25,000. Jay Cooke and Company at this time also purchased the Schuylkill Navigation Company lands at a cost of $290,000. With this money, the Board of Managers then repaired and furnished the Preston Retreat in 1865 at a cost of $361,734 and opened it for business.

In October 1865, the Board of Managers appointed Dr. William Goodell (7–10) of West Chester, Pennsylvania, the first resident director and steward of the Preston Retreat, with his wife, Caroline Darlington Bell (of West Chester, Pennsylvania) acting in the position of Matron of the Institution.

In the spring of 1866, Mr. William Saunders, of Washington, D.C., planned the ornamentation of the grounds of the Preston Retreat.

Under the mastership of William Goodell, the Preston Retreat flourished and became a showcase throughout the country for the public practice of midwifery. Goodell very ably implemented the recommendations made in the exhaustive Meigs report and even enlarged upon it. Under his mastership, he supervised the delivery of 2444 women.

In August of 1874 he reported on his stewardship of the Preston in the Obstetric Journal of Great Britain and Ireland. He reported on his first 756 deliveries. He had had six deaths during this period for an incidence of one death for every 126 deliveries. The deaths were: two from sepsis, one from a ruptured pelvic abscess, one from hemorrhage, one from acute chorea, and one from caries of the petrous portion of the temporal bone. Thus, his mortality from the dreaded puerperal infection or "child bed fever" was one in every 378 deliveries, far exceeding the record of the famed Dublin Lying-In Hospital.

Goodell was able to achieve this then outstanding record in the public practice of midwifery by the implementation of the Meigs' report and by his own innovations: early ambulation of the post partum mothers, the avoidance of the routine post partum enema, and scrupulous adherence to an aseptic technique, with the insistence on adequate ventilation in the wards at all times. He prohibited the performance of any autopsies by himself or his colleagues. He advocated immediate postpartum breast-feeding and forbade the use of the then routine belly band on the infant. He insisted that the nurses change their outer clothing and wash their hands thoroughly when leaving one ward and entering another. He rotated the postpartum wards, and when a ward was emptied, it was washed from top to bottom and aired and left vacant for two to three weeks. In labor, he introduced the administration of a teaspoon of ergot when the baby's head pressed on the mother's perineum. When the mother entered the second stage of labor and if the delivery did not shortly ensue, he effected delivery with the vectis or forceps to prevent his poor malnour-

ished patients from becoming too fatigued. He repaired all perineal lacerations with silver wire in order to decrease the possibility of infection. When postpartum vaginal examinations were indicated, Goodell insisted on a thorough scrubbing of the hands and then an immersing of the fingers in a carbolic acid solution prior to the examination. Because of the poor nutritional state of the patients, they were admitted to the Preston one or two weeks prior to labor so that they might be thoroughly bathed and cleansed and fed properly to improve their nutritional and physical state so that they could withstand the rigors of labor. He obtained the permission of the Board of Managers to keep the women for up to four weeks after delivery in order to bring them back to good health before discharge from the Preston. In serious and unusual cases, he could, with the approval of two thirds of the Board of Managers, keep the poor women up to twelve weeks. He also had permission of the Board of Managers to board the children under age seven for the entire time while their mothers were confined in the Retreat (6).

At all times, there was a constant demand for wet nurses. Goodell usually had about eighteen women willing to be hired as wet nurses at all times, for which they were paid 6–7 dollars per week (3).

Thus, through the implementation of the Meigs report and under the diligent and brilliant mastership of William Goodell, the Preston Retreat was able to create a national model for the public practice of midwifery and make such an institution safe for all women. These innovations led the way for the eventual change in the method of delivery from all walks and categories of life.

Acknowledgment

The author is indebted to the Board of Managers of the Pennsylvania Hospital for permission to reprint entirely their handwritten copy of the Meigs Committee Report. Permission to use original material of The College of Physicians was granted by Dr. W. B. McDaniel, Curator of the Library Historical Collections.

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Notes on the History of Medicine in Hungary[1]

By GEORGE POLGAR, M.D.[2]

A YOUNG lady, born in Budapest, who married an Australian, later made a trip around the world with her family and published a travelog, which became a bestseller. The story was presented as if told by the lady's little son. It started as follows: "My father is a law professor; my mother is Hungarian."

It seems that being Hungarian is a profession; one is assumed able to write and talk about a variety of subjects with the finesse of an expert. And so I was invited to give this lecture on medical history.

As a visual aid, I brought along a print of an oil painting by an unknown master of the early 18th Century. The original was found in an old pharmacy in Köszeg, a town in Western Hungary. The picture shows Cosmas and Damian, the patron saints of physicians and pharmacists (Figure 1).

While preparing for the talk, I discovered with regret that I am old enough to remember some of the events which can be considered medical history. The first was the coincidence that my professor of biochemistry in my freshman year at the medical school of Szeged was Albert Szent-Györgyi, who won the first Nobel prize for his country that very year. We gave him serenades and we celebrated a lot, but we had fewer lectures than usual. We were proud of him, and so were the people of Szeged, the center of the Hungarian paprika industry. The professor, of course, found a large concentration of vitamin C in that plant. He also influenced medical history in another way. Szent-Györgyi helped greatly to establish the first democratic student organization in Hungary, which after many decades of still Germanic discipline created a freer atmosphere of student-faculty relationship.

History became darker every year during my medical school period. There was increasing political pressure, discrimination, bookburning, and finally war, concentration camps and bombings. Physicians were not spared, and I lost many good friends during those tragic years. The end came with a six-week siege of the capital reminiscent of the Turkish invasion of the 16th Century. These were hard times for everyone, and physicians worked heroically amid falling bombs, famine and epidemics.

After the war there was a glimpse of hope for freedom, and we were full of optimism. I was a first year resident when it was my duty to appear regularly at the headquarters of the American Military Commission to pick up the penicillin shipments donated to my hospital. It was a wonder drug, and we loved the Americans for it.

Soon new clouds gathered, new discriminations and new pressures, purges and counterpurges, cultural deprivation and diminishing freedom. Medicine again shared in all this: therapeutic measures for diseases were ordered by law, education was tightly controlled, and the practice of medicine was reduced to assembly-line work. The predictable reaction came with the 1956 revolution, followed by defeat in the face of overwhelming forces, and mass exodus. I participated again, in a small way, in history, when I left my country with 700 other physicians (nearly a 7% loss of medical manpower). This

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Fig. 1. Cosmas and Damian. Painted by Endre Szász, after a picture from the 18th Century.

was a grave question of conscience and much of it is not settled to the very day.

You can see from the events of this relatively short period that the history of medicine as well as the history of any art or science in Hungary is intimately related to the political history of the country. This is one of the reasons why foreigners, who did not have the personal experience of being a Hungarian, have trouble understanding Hungarian literature, poetry, music, etc. I will try to illustrate this close relationship of medical and political history in what follows.

The Magyars occupied the Carpathian basin in 895 A.D. During the first 100 years they led campaigns against the West and got as far as France, but they were eventually driven back and forced to settle within the natural boundaries of Hungary. The consolidation was helped greatly by a remarkable ruler, the first king, Stephen I (later Saint Stephen). He not only converted his people to Christianity in a short period of time, but established a nation on the basis of impressively broad-minded principles. "*Unius linguae, uniusque moris regnum imbecille et fragile est,*" said Stephen, and he could have been a founding father of America for his views on the strength of the multilingual state. Alas, his teachings have been forgotten too often during the following 1000 years.

The first dynasty ruled Hungary for about 300 years, during which there was productive consolidation of the country with some expansive tendencies, leading to the early acceptance of an English-style Magna Charta in 1222, but brutally interrupted by the devastating Tartar invasion of 1241–42. During the slow recovery, the Árpád dynasty came to an end and foreign rulers took over the throne. Fifty years later there came an imperialistic drive for expansion, marred by the troubles that must be expected with such policies, yet bringing some true renaissance in the arts and sciences.

At the end of the 15th Century, the Turkish attackers started threatening the southern borders, and by 1526 a new tragedy was complete. The nation fell apart under the devastating sweep of the Turkish armies. The mid- and southern portions were under Turkish occupation for more than 150 years; the northwestern part was a kingdom under Hapsburg rule, with sections of the people collaborating with and others rebelling against Austria; Transylvania in the East formed an independent principality which collaborated to some degree with the Turks, but was troubled by Catholic-Protestant religious rivalry of the princes.

When in 1699 the Turks were finally driven out, with substantial Austrian help, a shambles remained of what was once a promising, developing country. The nation predictably and promptly turned against the Hapsburgs, which resulted in an eleven-year revolutionary war against Austria, led by Prince Rákóczi I. The

reaction was that absolutism was intensified, inflamed also by the fear of liberal winds blowing from Paris after the French Revolution. The vicious circle of oppression and national-liberal tendencies culminated in another bloody uprising in 1848–49, which again ended in a now even more painful defeat. It took eighteen years before the wounds were healed sufficiently to result in a compromise leading to a few decades of ill-at-ease prosperity and tranquillity. Some called this time "the golden age." However, the morale of the country was weak; with the teachings of Saint Stephen all but forgotten, the nation fell prey to the intrigues of the Viennese court that tried to rule by turning the nationalities in the Carpathian basin against one another. The internal strife was to be one of the causes of World War I, and the reaction to that was in turn to lead to the second cataclysm.

The Medical Profession

The history of the medical profession in Hungary started with the Benedictine fathers brought in from Monte Cassino by King Stephen. They built their first monasteries and primitive hospitals nearby in the eleventh century. Some of the ruins of these are still present.

Monks were generally regarded as authorities in medicine at that time. However, they soon became detached and withdrawn into theoretical work in their cells, and they let their helpers do the unpleasant part of medicine. Thus, the jobs of the surgeon-barbers, executioners, and other lay medics came into being. The Tartar and Turkish invasions wiped out many of the inhabitants of the monasteries, and therefore less and less learned people remained.

Initial attempts to start higher education in the country were also shattered, and young men who wanted to study medicine had to go abroad. For centuries the schools in Bologna and Padova, Halle and Heidelberg, Zürich, Leiden, Oxford and mainly Vienna saw scores of Hungarian students, poor and with the awkward habits of their strange country. Noblemen did not regard medicine as a desirable profession for their sons, but they were willing to support poor students in their travels. Later, funds were provided by some of the European universities, particularly when, after the Reformation, Protestants were not allowed into the places of higher education in the country. Many of these students remained abroad after graduation, and Hungarian names were to be found among the distinguished teachers of many European schools.

After the Turkish occupation, the trend reversed to some extent. The country was in poor shape, its population severely decimated. Even the Hapsburg rulers, probably not without political aims, transferred various nationalities from other parts of their Empire to Hungary. Many brought medical skills, for example, the Mennonites, who later were converted to Catholicism and who had many accomplished physicians among them. The influx did not produce a high level medical profession; it rather helped spread the various forms of charlatanism. There were the liniment and oil peddlers from the Slavic regions, the herniotomes and lithotomes, the occultists and the real witch doctors. Laws were signed against charlatans as early as the end of the 16th Century, but they were not very effective.

It was just before the great plague and small pox epidemics of the 18th Century that Queen Maria Theresa established the first formal medical faculty at the University of Nagyszombat (Tirnau) in western Hungary. At the opening of the school in 1770, five chairs were filled by German-speaking Austrians. Protestants were not admitted and neither were Jews (in Hungary, where the rights of Jewish merchants were assured by law more than 500 years before this time). The graduates were not

licensed in the monarchy as a whole, only in the Hungarian territories. This, and the poor financial state of the school in its first decades of existence, discouraged many young men from enrolling. At the same time, classes at the Vienna school were overflowing with Hungarians, which again worried some Austrians. But these were the troubled times between the revolutionary wars of Rákóczi and the 1848 rebellion. Hungarians could not expect much help from their rulers. No medical journal was permitted to appear in Hungary, not even in Latin.

The first medical faculty moved to Buda in 1778 with a three-year course, and opened a five-year curriculum only after 1805. There was a little known partial school in Transylvania, but more complete medical faculties were not established until around the turn of the century.

The school in Buda and later the one in Pest saw little excitement. Student discipline was a lesser problem than nowadays, but, ironically, at one time the students had to be ordered by the university authorities not to wear short hair, because it was against good taste when everybody wore it long. There was a brief open rebellion when, during the cholera epidemic of 1831, the town was under quarantine and the students wanted to break out and go home to their families.

Public Health

The state of public health was understandably linked to the political events. In times of war and occupation even members of the highest nobility became louse-infested, and various epidemics helped the occupiers decimate the population. However, the Magyars were relatively clean people, who liked bathing more than their neighbors. The numerous spas and hot springs which were and still are to be found in various parts of the country presumably contributed to their enjoyment of bathing. Just as profoundly as the Turkish invasion affected the fauna, flora, and even the climate of the occupied parts of the country, the ritual bathing habits of the Turks were also instilled in the people. Several of the original Turkish baths still stand as historic monuments, and some are even used.

The native population learned the hard way to protect itself from the endemic diseases spread by polluted waters and other uncontrolled environmental factors. Wine-drinking became universal when, during the occupation, wells and creeks became unreliable. Wine was probably the one thing in which the Turks were not interested, since their religion prohibited its consumption. It is a fact that immigrants and visitors, unfamiliar with the local conditions, fell victim to the endemic typhoid, dysentery, etc., in larger proportions than native Hungarians. Other major diseases afflicting the people of the middle ages, such as syphilis, lepra, tuberculosis, and the great epidemics of plague and cholera knew no national barriers and severely limited the chances for quick recuperation from the grave losses suffered by the political events.

Learned physicians being as rare as they were during the centuries before formal medical education began, the people consulted charlatans and relied on collections of home-made remedies and proverbial health advice for their complaints. Almanacs, published yearly and being the only printed reading material next to the Bible for most country people, contained a wealth of popular medicine. For example, the "Löcsei Kalendarium" (Calandar of Löcse) of 1626 offers the following advice[3] for the first two months of the year:

> January:
> Don't suffer from bloodlett'n'
> In the month of the Virgin,
> Spice all the food you put away,
> You will live to see many a day.

[3] Translated by Steven Polgar.

February:
Protect yourself from the cold,
Don't eat fish, drink wine that's old,
It won't hurt you to take a bath,
Don't harm your body, see to that.

Jocular references to the various effects of the diet, such as the following, were commonly told over meals:

Fresh cabbage squeezes; cook its juice, that softens. Eat one after the other, your stomach'll empty faster.

The teller of this *bon mot* was allegedly reprimanded by the hostess at a nobleman's dinner table, because it was considered unworthy of high society conversation.

Of course, serious monographs also were written about various diseases. "A Short Meditation on the Plague" by Máté Csanaki (1634), a court physician, gives a rather accurate symptomatology of the dreaded disease. The etiology as commonly accepted was "God's scourge for punishment of our sins." Suggested treatment: venesection, purgation, plasters, and mainly the consumption of garlic. The latter was indeed used excessively by rich and poor alike.

Cholera had its own literature in professional as well as in fine prose and poetry. Particularly infamous was the last big epidemic of 1831, which triggered an uprising of the peasants against the landlords, who were allegedly responsible for the epidemic. The story was spread intentionally by political profit-seekers.

An interesting pamphlet about pipe-smoking appeared in 1762. It gives a generally favorable opinion about the effects of smoking, particularly in the morning hours, when it supposedly clears the throat and stimulates gastric function; but, some warning is also voiced against its use together with excessive drinking, in which case it may be deleterious to the lungs and may even cause "dry cough" (tuberculosis). It shows a remarkable degree of foresight 200 years before our Surgeon General's first report on smoking.

Finally, toward the mid-19th Century, better medical education and medical care began to make their effects felt. Even the almanacs were more reasonable. In the 1841 edition, a mockery of the old-fashioned superstitious home remedies appears:

For tooth-ache take a birds' egg with some water in your mouth; sit on the stove until the egg becomes soft boiled; you will never have a tooth ache again.

Hungarian medicine was not entirely unknown abroad even long before the first Nobel Prize winner. Paracelsus traveled extensively in Hungary in the 1520's studying medical practices, and, as a secondary project, wines. The most famous panacea of 18th Century Europe was Aqua Regina Hungaricae, a simple alcoholic extract of rosemary (spiritus rosmarini). The drug was used by the upper classes (including such notables as Louis XIV and Mme. de Sévigné) for almost everything. It is difficult to say what the secret of good publicity is in such matters!

Important Figures

Finally, let me introduce a few of the historic figures of Hungarian medicine:

Ágoston (*Augustin*) *Schöpf-Merey* was the founder of the first pediatric hospital in Budapest (1838). He also taught medical history. Like many of his colleagues, he participated in the 1848–49 revolution and went into exile after its defeat. He started a hospital for sick children in Manchester, England, with a native obstetrician named Whitehead.

János (*John*) *Bókai, Sr.* was born in 1822 of German-speaking parents (his original name was Bock). He took over Schöpf-Merey's hospital in 1847 and became the first professor and chairman of a pediatric department in a medical school in the whole of Europe. Bokai died from injuries suffered in a fall while opening his new Hospital for Poor Children. He founded a pediatric dynasty. Two of his descendents

Fig. 2. János Bókai, Sr.

Fig. 3. Frigyes Korányi.

(János, Jr. and Zoltán) became professors of the new discipline.

Frigyes (*Frederick*) *Korányi* (1828–1913) was founder of modern internal medicine in Hungary and started the long fight against tuberculosis. He designed a stethoscope, which was widely used by internists, but not by pediatricians. He also started a dynasty: his son Sándor and several relatives became leading figures in internal medicine.

Fig. 4. János Balassa.

János (*John*) *Balassa* was one of the greatest surgeons of his time. He obtained numerous invitations to chairs in foreign schools, but he was an ardent Hungarian and stayed home. He had a leading role in the 1848 revolution and was jailed afterwards, but because of his name in surgery the king pardoned him and he was given his position again. This was the more remarkable, because Balassa was the son of a Protestant minister, an almost guaranteed reason for exclusion from high posts.

Lajos (*Louis*) *Markusovszky* (*1834–93*), also an eminent surgeon and Balassa's disciple, was not so lucky. He never became professor because of his religion. He was founder and long-time editor of the first and still existing medical journal (Orvosi Hetilap).

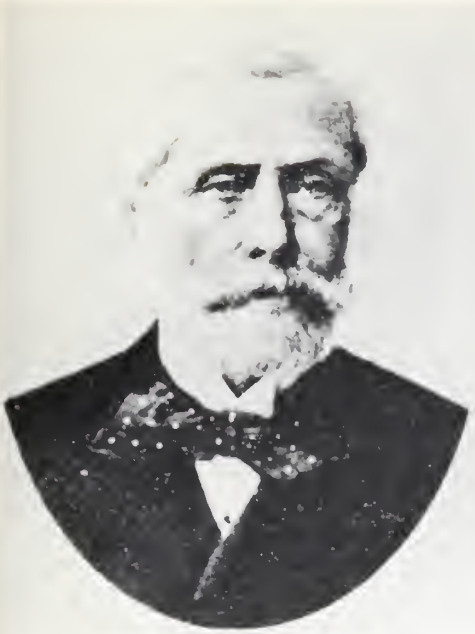

Fig. 5. Lajos Markusovszky.

Fig. 6. Ignaz Semmelweis.

It seems to me that I should not mention *Ignaz Semmelweis* (1818–1865) at all, because he and his Hungarian origin are so well known. Yet, when reading his story again the other day, it struck me that the drama of this genius is more than the life of an individual. This man, who, with the spontaneity of a Newton, discovered the relationship between contamination by decaying human remains from the autopsy table and the dreaded mass murderer, puerperal fever, and who stayed with his interpretation of this discovery at a time when Virchow's cellular pathology theory was at its zenith, fought for his idea and for the life of thousands of mothers with the heroism of all the Hungarian rebels throughout the centuries. He was as sure about the truth of his discovery as was Galileo and (like that other genius) he was driven to extremes, with the difference that Semmelweis was fighting not only for an idea but for lives. He was finally declared paranoid, which under the circumstances was a reasonable conclusion, and committed to an asylum. Several weeks later he died, ironically, from a wound infection which he contracted during an operation before his detention. His life was the Hungarian tragedy: a spirit warning the world, not heard, crying for help, not assisted. He was also a true medical genius, who preceded Pasteur by thirty years and Lister by about twenty, with the new idea of infectious etiology of diseases. His opponents destroyed much of their credit by closing their ears and eyes from the truth.

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Medicine, Music and Academia[1]

By F. WILLIAM SUNDERMAN, M.D., PH.D., SC.D.[2]

BECAUSE of my personal associations in medicine, music and universities, it seemed appropriate to focus the remarks this evening upon three areas of interest. I hope that these areas might hold some appeal to you.

First, reference will be made to the contributions to music by three eminent physicians who lived during the past century. The *second* area will be directed to the furtherance of music through the friendship of Billroth and Brahms. Billroth was one of the world's greatest surgeons, and Brahms was one of the world's greatest composers of music. And, *lastly,* a resumé of Brahms' Academic Festival Overture will be given in order to capture the spirit of the European universities about a hundred years ago.

Contributions of Physicians to Music

The art of music and the priesthood of medicine have been closely linked since ancient times. All of you know that Apollo was the god of medicine, but how many know that he was also the god of music? The noblest conception within the range of Greek mythology places Phoebus-Apollo as the god of both medicine and music. Although music and medicine have been closely related for thousands of years, nevertheless, at no time was the association more intimate than during the latter part of the past century in the European universities.

In assessing the development of music during the past century, mention should be made of the outstanding contributions of three physicians, all of whom were contemporaries covering the period of 1821 to 1891, all of whom were professors in medical colleges of European universities, and all of whom were dedicated to the furtherance of music. These three physicians were Helmholtz, Borodin and Billroth.

The first physician to whom tribute should be paid was Hermann von Helmholtz (1821–94) (Figure 1). Helmholtz possessed one of the greatest scientific minds of the nineteenth century and held professorships in the medical colleges of the Universities of Königsburg, Bonn, Heidelberg, and Berlin. While at the University of Königsburg, he published his monumental work entitled, *The Sensations of Tone as the Physiological Basis of Music.* This book has been translated into many languages and is still fittingly referred to as the "Principia of Acoustics."

The second Aesculapian to whom honor should be given was the great Russian biochemist and professor in the Medical College at the University of St. Petersburg during the past century. Alexander Porfirivich Borodin (1833–87) was the illegitimate son of one of the Russian princes (Figure 2). The name, "Borodin," was the surname of one of his father's slaves. (One should, perhaps, realize that illegitimacy does not preclude one from attaining high honors in either music or medicine.) Although Borodin was a distinguished scientist, his claim to immortality arises chiefly from his accomplishments as a musical composer which he himself regarded "as a recreation, a past-time, and an avocation that distracts me from my principal activity as a professor." Borodin founded the famous Russian Kouchka (Circle of Five)[3] whose members openly revolted against the rules and conventions of European music, feeling

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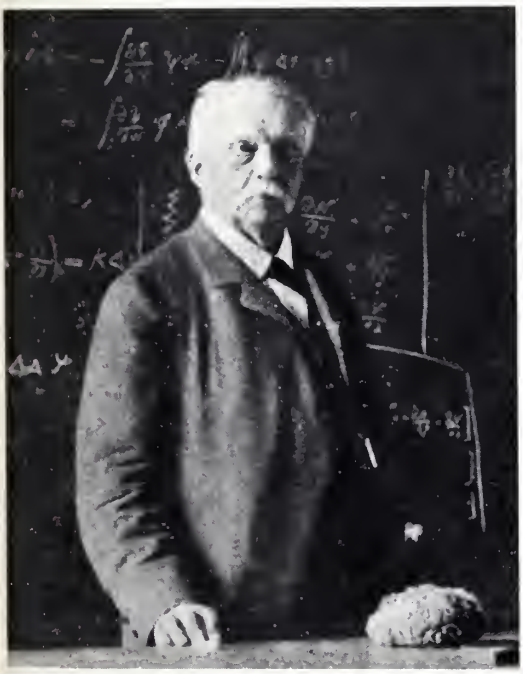
[3] The members of the Kouchka were Moussorgsky, Rimsky-Korsakoff, Cesar Cui, Balakireff and Borodin.

that the traditional classical music inhibited the free expression of Russian musical thought and feeling. Borodin did not leave a great number of compositions; what he did leave has weight and commands respect. It was the almost miraculous good fortune for your speaker five years ago to have rediscovered in Moscow by sheer happenstance Borodin's string sextet which had been lost since its initial performance in Heidelberg in 1863.

The third disciple of Hippocrates deserving of special tribute is Theodor Billroth (1829–94) (Figure 3), who was destined to become one of the outstanding leaders of his century in the development of both of the fields of medicine and music. Unlike Helmholtz, whose musical contributions were directed mainly to scientific considerations, or to Borodin, the talented composer of music, Billroth was both a physician and



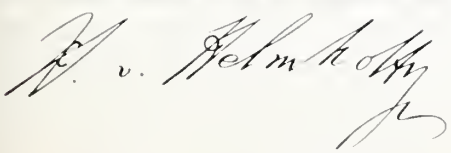


Fig. 1. Hermann von Helmholtz (1821–94).

Fig. 2. Alexander Porfirivich Borodin (1833–87).

a musician whose musical contributions were mainly those of a philosopher, educator, mentor and patron of the art.

Most physicians are well aware of Billroth's contributions to the medical sciences. His book on Surgical Pathology (*Allegemeine Chirurgische Pathologie und Therapie*) is still regarded as one of the finest treatises in medical literature, evidenced by the fact that it has been translated into nine languages (and even into Japanese). Of Billroth's boundless energy, originality and foresight in surgery, every surgical amphitheater in the world offers ample proof. However, the fact that he was a proved musician, that he wrote a book on the physiology of music (*Wer Ist Musikalish*), that he exerted a dominant influence on the music of his period—and

Fig. 3. Theodor Billroth (1829–94).

especially the music of Brahms—is less well known, not only by physicians, but also by musicians. But, this is a fact.[4]

Billroth and Brahms

This brings us to the second area of interest, the musical friendship between Billroth and Brahms.

During the early part of the last century, two boys were born in northern Germany about 125 miles apart. One boy was born in 1829 into a gracious, cultured home on the enchanting island of Rugen in the Baltic. He was the son of a Lutheran preacher and a descendant of four generations of distinguished scholars, artists and musicians. The other boy was born four years later in 1833 into the uncultured environment of the slum district of Hamburg. He was the son of a poor, destitute musician, and his family filled a comparatively lowly position in life. The first boy became one of the world's greatest surgeons whose surgical operations with minor modifications are still used in almost every hospital in the world; the second boy became one of the world's greatest composers of music whose music is heard in practically every concert hall. The first boy's name was Theodor Billroth; the second boy's name was Johannes Brahms.

Theodor Billroth was gifted in music from his early youth. His maternal grandparents had been professional opera singers, and through them, he became familiar with the compositions of the great masters. During his youth, he developed into an excellent pianist. At the age of nineteen, at the request of his family, Billroth gave up the pursuit of music as a career and began the study of medicine at the University of Göttingen. Although he was a student of medicine, nevertheless, at Göttingen he continued to keep up his musical interest and, on occasion, served as the accompanist for Jenny Lind and other artists.

Compared to the early career of Billroth, that of Brahms was quite dissimilar. In Brahms' early youth, two interested music teachers recognized the highly gifted talents of Brahms and furthered his musical education, in spite of his lack of facilities and financial support. He attended grade school and educated himself for the most part by voracious reading and diligent study. As a means of livelihood, he played dance music for the sailors and their girl friends in the brothels along the waterfronts of Hamburg. At the age of nineteen, he left Hamburg on a concert tour as the piano accompanist to the well-known Hungarian gypsy violinist, Remenyi. In the course of this tour, he had

[4] Brahms composed three string quartets, two of which he dedicated to Billroth. These quartets are frequently played in my home. Upon reading the dedication to Billroth on the title page of the Opus 51 quartets, it is surprising how often accomplished musicians will ask, "Who was this fellow, Billroth, anyway?"

the good fortune to meet Robert Schumann, the composer, who proclaimed Brahms to be the coming musical genius of Germany. After concertizing extensively as a pianist, Brahms accepted the position as Director of the School of Music in Detmold. It was while holding this post that Brahms composed some of his finest chamber music.

I am happy to have visited Detmold on a number of occasions, and while there, I have always reserved Room 5 in the Hotel Stadt Frankfurt where Brahms lived from 1857–59. Indeed, I feel a certain gratitude that some of my own ancestors emanated from this richly cultural area. When I visit Detmold, it also gives me pleasure to wander along the path through the Teutenberger Mountain to the Hermann monument at its summit. It was along this path that Brahms is said to have obtained the inspiration for a number of his most beautiful melodies. In spite of his prolific writings, at no time did Brahms ever gain a living from the sale of musical compositions. He sustained himself almost entirely by conducting orchestras and choirs and from appearances as a concert pianist.

After his Detmold days, Brahms returned to his home town of Hamburg and, deep in his heart, craved to be appointed the conductor of the Hamburg orchestra. When this position, however, fell to another, Brahms left Hamburg and settled in Vienna, a city comfortably administered by the Hapsburgs and glowing with the warmth of musical tradition.

Several years prior to the time that Brahms removed to Vienna, Billroth had accepted the professorship of surgery at the University of Zurich (1858). While at Zurich, Billroth developed an aversion for Wagner's music; however, the music of Brahms appealed to him. Thus, it was with genuine delight that Billroth met Brahms, probably for the first time, in Zurich when the latter was on a concert

Fig. 1. Johannes Brahms (1833–97).

tour.[5] The account of Brahms' reception by Billroth is recorded in one of Brahms' letters to Clara Schumann:

> You may be able to gather how well I was received from the fact that after my first concert in Zurich, . . one of two musical friends . . . arranged a private concert on Sunday. . . . They hired the orchestra and telegraphed far and wide for the musical scores. . . . Anybody who had any interest in music was invited to listen without further ado.

In 1867, when Billroth was offered the Professorship of Surgery at the University of Vienna, he readily accepted. The acceptance was probably made more gladly since his friend Brahms had already moved to Vienna the previous year. He and Brahms had found much in common in Vienna. Both were North German Protestants transplanted to a foreign soil which was predominantly Catholic, and both

[5] A photograph of Brahms is shown in Figure 4. Actually, Billroth and Brahms resembled each other and were often mistaken for brothers.

maintained a strong patriotism which the war of 1866 helped to intensify. After the first three months in Vienna, Billroth wrote to one of his friends that, within two months, he had attended nineteen concerts, had seldom gone to bed before two o'clock in the morning, and that he, Brahms and Hanslick (the music critic who was also Professor of Music at the University) had met several times a week to attend a concert, go to the theatre, or simply to dine together. Billroth became enraptured with the musical and artistic life of Vienna, but felt that in science he missed the strict German discipline to which he had been accustomed. In Billroth's words, "Science requires a firm and hard ground rather than a rich, warm soil."

In Vienna, Billroth's home was simple in design, with the exception of the music room, which was ornate. At the innumerable concerts given at his home, Billroth was always the center of attraction. The audience seemed to be inspired by his striking image, his buoyant spirit, his glowing love of life, and his joy in making music.

Practically all of the chamber music composed by Brahms after 1867 was played for the first time before a selected audience in Billroth's home. Hanslick humorously remarked that Billroth had *"Jus primae noctis."* Throughout the ensuing years, the new compositions of Brahms were given to Billroth in manuscript form for his comments. This was a flattering acknowledgment of the confidence which Brahms placed in Billroth's musical judgment.

The evening activities in Billroth's home were essentially of two types: those at which string quartets and the leading artists of Europe would perform informally before a small group and those before a larger group at which a formal concert would be given and Brahms would conduct. The guests for these occasions were proposed by Billroth, but no invitations were extended without Brahms' approval. After the performance, there was no difficulty in ascertaining Billroth's reaction. If the artists performed creditably, champagne was served with the refreshments; if the performance was mediocre, beer was provided. (I hope a satisfactory libation will be merited this evening.)

In the environment of Vienna and its great university, Billroth and Brahms remained loyal and devoted friends for more than a quarter of a century. Although Brahms held no academic appointment at the University, he became closely affiliated with it through his faculty associations and his posts as conductor of various musical organizations. The publication of 331 letters between Billroth and Brahms (many of which I have translated) affords an excellent portrayal of the cultured environment of Vienna and gives an insight into the dominant role that these men played in the furtherance of music during this past century.

With advancing years, Billroth became the idol of the University and the Viennese people. Although Billroth (in a letter to Brahms) expressed pleasure over his popularity, nevertheless, in a more critical letter to one of his former colleagues in Zurich, he wrote, "What do the people really know as to my scientific accomplishments? Nothing. A myth develops: the myth starts from something not understood, partly from superstition, and develops into a miracle through the imagination of the people. I believe that the surgical removal of the larynx and replacing it with an artificial one[6] was the beginning of the myth about me. The people have a morbid curiosity and the press knows well how to take advantage of it. Now, this would all be very entertaining, but I am overwhelmed by the profuse admiration. . . .

[6] Billroth was a pioneering surgeon in inserting artificial organs.

What I know, my students know also, and perhaps even better.... At my years, I can be regarded only as a useful direction-pointer—one who can point to the right way or at least in the direction to the right way." It might be mentioned that almost all of the chairs of surgery in the leading medical colleges of Europe were occupied by Billroth students.

The dominant passion throughout Billroth's life was his love of music. He believed that the study of music greatly aided his ability as a surgeon. Even in his medical writings, one senses the interest which Billroth had in music and musicians. Thus, in discussing methods for selecting men who are best fitted for university professorships, he quotes Schumann's maxim, "Perhaps only the genius quite understands the genius." One of the best illustrations of his tendency to write in musical terms is a letter written to his old Professor Baum, at Göttingen: "The end of your letter in which you speak about your age in a sad tone does not agree with your otherwise youthful attitude.... The inspiration of living lies in the beautiful harmonic sequence of our major and minor thoughts. You have still plenty of time to think of the closing symphony of life as it is portrayed by Beethoven in the end of "Egmont" and in the "Ode to Joy" in Beethoven's Ninth Symphony. May God still keep you long as a conductor of the orchestra and have patience with one of the oldest members in your orchestra who is a violinist and is anxious to be advanced to the first stand."

At Billroth's death, the entire city of Vienna went into mourning. No ruling monarch was ever accorded more reverend respect. Brahms commented that, among the enormous crowd in attendance at the funeral, there was not one indifferent or inquisitive face but only expressions of deepest sympathy and affection. The stature of Billroth, the physician and musician, perhaps can best be appreciated by quoting a brief portion of the lengthy eulogy given by the rector of the University:

> For Theodor Billroth, the black flag of mourning is flying from the roofs of official buildings. It signifies the death of a man who was the foremost ornament of our faculty. Science has lost one of its most genial representatives, an inspiring spirit at whom all of us younger men gazed in veneration.... The Vienna Medical School, all of Austria, and all of the world mourns this irreplaceable loss.... When he refused the call to the professorship of surgery in Berlin, he received from us an ovation which was a storm of enthusiam and love. His words on that occasion still ring in our ears, when he said, 'I cannot conceive that I would ever say farewell to Vienna.' Now, we shall have to accustom ourselves to the thought that we have lost forever this scholar, this musician, this Samaritan, this thinker, this poet, and in one word, this genius—Theodor Billroth.

Academic Festival Overture

In endeavoring to capture the unique spirit of commencement time at the European universities during the past century, attention has been directed to the University of Vienna in which Billroth, Brahms and Hanslick (the Professor of Music) dominated the medical and musical disciplines. It seems to me that this spirit is fittingly expressed in the music of Brahms' Academic Festival Overture, parts of which I should like to play for you. The Academic Festival Overture is mentioned in at least one of the letters of Brahms to Billroth, and it can be inferred that Brahms discussed the material and construction of this work with his devoted friend, Billroth.

The overture was written in 1880 by Brahms as a gesture of thanks to the University of Breslau upon the conferment of an honorary doctorate degree. Thus, we see that this *quid pro quo* for honors was effectively applied in university dealings even a hundred years ago. In composing the overture, Brahms did not make the customary formal approach, but based it

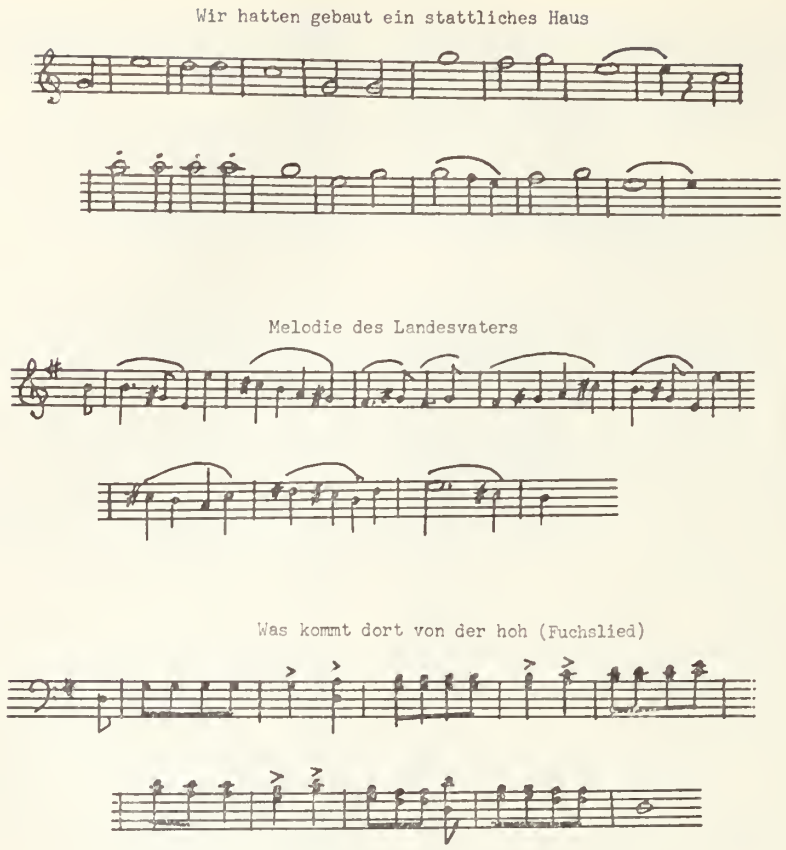


Fig. 5. Songs incorporated in Brahms' Academic Festival Overture.

upon the point of view of student tradition. The work involves the music of four time-honored student songs which, with the exception of one, were joyously sung at graduation and other festive occasions.

The first song in the overture, which is brilliantly intoned by the trumpets, bears the title, *"Wir hatten gebauet ein stattliches Haus"* ("We Had Built a Stately House") (Figure 5). It is said that some of the student parodies were slightly ribald and would suggest that at least some of the houses that were built were not always in the character of stately mansions. The translation of the first verse is as follows:

> We had built a stately house,
> Inside of which we placed our trust in God,
> In spite of weather, storm, and fear.

The second student song is the *"Landesvater"* (the most solemn song to the Father of the Country).[7]

The *"Landesvater"* song (Figure 5) was written before 1770 and was used on rare occasions of patriotic consecration. A sword was passed around among the students in a fraternity and each student pierced the sword through his colored fraternity cap, singing, *"Ich durchbohr den Hut und schwore, halten will ich stets auf Ehre, stets ein braver Bursche sein."* ("I

[7] The full text of this song was obtained through the kindness of one of my friends who is a professor at the University of Heidelberg. I might say, parenthetically, that in preparing the material for this talk, I am in the position of Charles Lamb who explained how he wrote one of his essays. Said he, "I milked twenty cows to get the milk, but the butter I churned is all my own".

pierce the hat and swear I will always insist upon honor and always be a brave fellow.") After the ceremony, the student's sweetheart was honored with the task of closing the hole in the hat by embroidering a silver oak leaf over it as a token of participation in a *Landesvater.*

The third song is the *"Fuchslied"* (Figure 5) which literally translated is "Fox Song." A "fox" in the German universities is an uninitiated freshman fraternity man. The song is a rollicking, jolly roundelay used in freshman initiation ceremonies. In the ceremony, the freshman entered the room riding on a heavy leather upholstered chair. The rumbling rhythm of this ride is well-marked in the instrumentation.

The melodies of these three songs are interwoven in the first part of the overture. In using folk music, a composer cannot move abruptly from one song into the next but must employ bridgings.

(At this time, a tape-recording of that portion of the overture was played which contains the three songs.)

The closing, or fourth, student song is the well-known *"Gaudeamus Igitur"* ("Now Let Us Be Joyful"). This was and remains the official anthem of the German university student.

In composing the Academic Festival Overture, Brahms played the first three songs against each other in a most delightful way, and after a recapitulation of all of the material, he had the orchestra burst into a highly-spirited jovial version of the celebrated *"Gaudeamus Igitur"* in which the students joined wholeheartedly in the singing. The translation of the fourth verse of *"Gaudeamus Igitur"* is as follows:

> Raise we, then, the joyous shout:
> Life to Alma Mater!
> Raise we, then, the joyous shout:
> Life to Alma Mater!
> Life to each professor here,
> Life to all our comrades dear,
> May they leave us never,
> May they leave us never.

Brahms liked to refer to the Academic Festival Overture as his "laughing" or "happy" overture. He was criticized for pitching the *"Gaudeamus Igitur"* too high. This song is usually sung in either the keys of A- or B-flat. In order to achieve brilliance, Brahms raised the pitch to the key of C. So, excepting for the sopranos and tenors, one may find the orchestral version a little high for singing.

For the Academic Festival Overture, Brahms employed the largest orchestra he had ever used in any of his compositions. At the end of the overture, he has every player scraping, blowing and hitting as hard as he can. Although the intensity of the sound on the recording is reduced, nevertheless, many may complain that the rendition is too loud. All that can be said in reply is that it is not as loud as it was intended to be.

(The Philadelphia Physicians String Quartet played a transcription of each of the four songs. A tape-recording of the closing section of the overture was also played.)

The story of the Academic Festival Overture could be written entirely around Brahms. However, how much of the composition is really Brahms, and how much of it is Billroth? Certainly the happy festive character of the piece is more in keeping with the genial, extroverted personality of Billroth. Moreover, Brahms never attended a university as an undergraduate student and obviously had never taken part in a student fraternity initiation or in a *Landesvater* ceremony. Therefore, the student songs that were incorporated into the overture would not have been as meaningful to Brahms as to Billroth, who had spent his entire life amid academic surroundings.

It is a matter of record that Brahms discussed the composition with Billroth, and undoubtedly, there was an exchange of ideas concerning it. The exchange of ideas and the mingling of men's thoughts are ennobling forces that enrich the intellec-

tual aura of every college or university environment. This exchange provides the inspiration for research and creative endeavor, and as a consequence, it oftimes becomes difficult (and really unnecessary) to give appropriate credit. However, the question might reasonably pose itself into an inquiring mind: Does the Academic Festival Overture emanate mostly from Brahms or mostly from Billroth? And then the second question should be asked: Does it really matter?

The names of Helmholtz, Borodin, Billroth and Brahms and their monumental works will doubtless live through the ages. The last movement of Brahms' German Requiem was based upon a verse from Revelations which the Pastor also used as the text at Brahms' funeral and which I quote:

> Blessed are the dead which die in the Lord for henceforth they may rest from their labors and their works will follow them. (Rev. 14:13)

I feel certain that the traditions of our College of Physicians encompass this thought.

Distillates from Hieronymus Brunschwig's *Book of Distillation*

By MARION B. SAVIN, M.S., AND HAROLD J. ABRAHAMS, PH.D.[1]

THE closing years of the fifteenth century found Hieronymus Brunschwig (1440–ca. 1512), surgeon of the Imperial Free City of Strassburg, writing his second book: *Liber de arte distillandi de simplicibus. Das Buch der rechten Kunst zu distiliren die eintzigen Ding.* It was published in Strassburg, as of May 8, 1500, by the famous house of Johannes Grüninger, which had, three years earlier, brought out Brunschwig's first: *Buch der Cirurgia.* That historians of chemistry have, for a long time, shown a deep interest in and respect for this work (known as the *Small Book of Distillation*, or *Kleines Distillierbuch*) is quite understandable, in the light of the fact that, in an era when alchemy was still bogged down in its non-productive absorption in gold-making, with its literature virtually incomprehensible except to its illuminati, the *Distillierbuch* proved to be a practical work upon distillation, written in language (Middle German) quite understandable to the ordinary citizen of the time, for whose use it was intended by the author. For this reason, Brunschwig's *Book of Distillation*, one of the early printed books devoted to the practical phase of alchemy, and one of the earliest on applied chemistry written in German, has become a bridge which enables us to make the transition from alchemy to chemistry, along with such other published works as Agricola's *De Re Metallica* (1556) and Libavius' *Alchymia* (1595).

The Book of Distillation consists of three divisions: the first is devoted to the various forms of apparatus for distillation—furnaces, stills, condensers, receivers, various sources of heat (i.e., from fermenting horse-dung, anthills, souring dough, sun's rays), and so on, thus providing a full account of the art of distillation; the second deals with the description of the medicinal plants which are to be subjected to the process of distillation; the third division gives the uses of these distillates (or "waters," as they are called) in the treatment of the ills of man's flesh. The book's three divisions are illustrated by the use of charming woodcuts, making this work the earliest attempt at so depicting chemical apparatus and chemical manipulations. The result is a practical work upon distillation and its applications. Many editions and various revisions appeared during the century which followed, a major one being *Liber de arte distillandi de compositis* (1512), the so-called *Grosses Distillierbuch*, or *Large Book of Distillation* (1). It needs to be added that the *Book of Distillation* is of interest not alone to historians of chemistry. Historians of botany, medicine, pharmacy, interior design, the art of woodcuts and social historians will find much to interest them in this work.

The fact that a surgeon would concern himself with the preparation of medicines seems to require an explanation. In his time, the physician was a university graduate, devoted to the ideas of the medical authorities of olden times. The ills which required treatment with scalpel or other instruments were left to the barber-surgeon, as being beneath the dignity of treatment by the physician. Surgeons often became city-poor doctors, and thus treated great numbers of patients, who could not afford to pay the large fees of doctors, nor purchase the costly medicines of the pharmacists. Surgeons developed a progressive attitude to the enlarging of their

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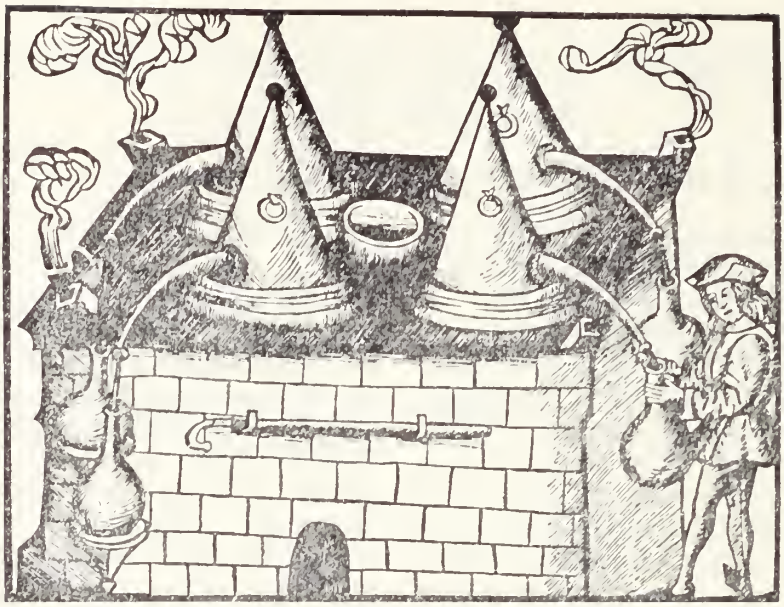

FIG. 1. Woodcut from the *Book of Distillation* shows a furnace, or oven, for distillation over a water bath, with special still heads known as "Rose hats."

knowledge, fostered by their wide professional experience, and learned to ignore the hidebound theories of contemporary physicians, who refused to abandon their veneration of Greek and Arab texts. For surgeons, it was only a short step from soiling their hands in the treatment of human flesh to soiling their hands in experimenting with the materials and methods of manufacture of medicinal preparations. Thus, surgeons became distillers of medicinals, basing their high regard for the process of distillation upon the widely held belief that by this process the very soul of an herb could be parted from the coarse "gross") diluent, be captured in the distillate, and be made to render a far more potent medicinal account of itself than could the crude, undistilled drug. The time of Paracelsus and the iatrochemists was near at hand, and the sixteenth century brought vast changes, one being the application of chemical principles to pharmacy and medicine. The latter disciplines spurred further developments in chemistry in a reciprocal fashion. Paracelsus was friendly to the idea of separating the active medicinal principles from the gross matter of herbs and drew inspiration from the work of the group of surgeons, of which Brunschwig was the leader. (It is therefore necessary to take into account the work of the Strassburg surgeon in the domain of chemistry, if we are to make a true assessment of Paracelsus and iatrochemical influences.)

As to Brunschwig's distillation products (or "waters," as he called them), they may furnish us with many reasons to smile tolerantly, or even chuckle, the while that we remember, on the other hand, the many virtues of his contribution. Was it humor, informed by deep wisdom and understanding, which led him to observe that persons suffering from melancholia would profit from engaging in distillation activities, because the hot, moist atmosphere attendant upon such work would be beneficial to those having a "cold, dry complexion," which was the root of this malaise? (Our modern equivalent might be the steam bath.)

The purpose of the present paper, with its excerpts from *The vertuose boke of the distyllacyon of all maner of waters of the herbes* . . .

tr[anslated] into Englysshe out of Duche by Laurence Andrew, London, ca. 1530, is to supply an opportunity to smile a little, sometimes with Brunschwig, sometimes at him, as we try to obtain a better understanding and a more complete picture of a fifteenth century mind.

(Note to the reader: Laurence Andrew, Brunschwig's English translator, followed the practice of indicating an abbreviation by placing a bar or line above a letter which precedes the omitted letter, viz., cō-plexiōs for complexions. The letters u, y and i of those times are now v, i, and j, respectively.)

I

Brunschwig ascribes great importance to the color of his raw material:

Chapter CLX Water of Capones (capons):
[160] "Capo in latyn. The best parte and tyme of hys dystyllacyon is ye shall take a blacke capon foure or fyue yere olde/and worowe and pluck hym without wettynge of water/therafter cut hym in foure quarters and put away all the grece frō hym/and wasshe well and make clene the entrayles/and then choppe hym in small peces/and dystyll hym than per Alembicum/or in a helmet lyke other waters . . . The same water dronke in the mornīg/at none/and at nyght . . . cōforteth and strengtheneth the nature of the body . . . and reioyseth the spyryte . . . eawseth appetyte to eate meate . . . and wythdryueth all dysseases frome the harte + strēgtheth a persone so moch that it is sene on hys body. In the mornyng and at nyght the face wasshed wyth the same water and lette drye agayne by hym selfe causeth the face to be fayre and clene."

Nor was a black hen any safer, if it strayed within reach of the Brunschwig distillatory:

Chapter CXXXI Water of hennes (hens)
[131] "Gallina in latyn . . . worowe a good blacke henne . . . Thā put of all feders . . . and distil the same in an helmet. After that put the water in a glasse and dystyll it per balneum marie. Water of hennes shall be gyuen to drynke to them whych haue ben so longe seke/that he is hole consumed and is hole feble and faynte/it is good aboue mesure for such one/for it gyueth hym so moche vertue + strengtheth hym so moche/that al the medecyns haue meruayll of the same."

Nor were black calves any safer:

Chapter CLIIII Water of calves blode
[154] "Sanguis vituli in latyn. The best parte and tyme of hys dystyllacyon is/the bloode of a black calfe/and the blacker the better . . . [the distillate] warmeth + conforteth the membres greued with the Palsey/rubbed with the same water in the mornyng + at nyght well warme and clothes wet therein and warme layde there upon. The same water conforteth the membres + senewes . . . "

Chapter CLV Water of Calfes blode and longues to gyddre
[155] "Sanguis + pulmo vituli in latyn. The best parte of his dystyllacyon is/the blode + longues of a blacke calfe chopped to gyder + dystylled per Alēbicū . . . good for consumynge membres/the membres rubbed therwith and let drye agayn by hym selfe/but yf the body consumeth than the same water must be dronke . . . "

Half a loaf is better than none:

Chapter CLVI Water of Calfes Lyuer
[156] "The beste lyuer for to dystyll is of a blacke calfe whā it can be gotten . . .

Chapter CCVII Water of Oxee blode
[207] Sanguis bouinus in latyn. The best parte and tyme is of a black oxe which goth in a good pasture where as many flowres do growe/dystylled in the May." [good against paralysis and gout]

Chapter CCXXII Water of the gall of an oxe
[222] "Fel tauri in latyn. The best gall is of a blacke oxe/whan they may be goten/and it shall be dystylled in July/or in the canyculer dayes.

Of the same water an houre before night in the iyē doth withdryue the fleces and spottes in the iyē. The same water is good agaynst the worme in the fynger/clowtes wette therin + layd theron twyse or thryse contynuynge/and at eche tyme wet agayne . . . than the worme dyeth."

Chapter CCXLII Water of blacke Cheryes
[242] "Cerasa nigra in latyn . . . The best parte of the dystyllacyon of the great blacke cheryes is/the moste blackest that may be goten + dystylled . . . " [good against dropsy, palsy, swellings, laske]

Geriatricians, please note!

Chapter CCC Water of the herbe of pelether
[300] "Herba helebori nigri . . . I haue sene a

man at Straesborowe whiche was a hondred and thyrty yere olde whych had euery day without upon his hāde the powder of the same herbe/the quantyte of an hazel nutte + lycked therof/and he abode in good helthe unto the tyme of hys naturall endynge of lyfe."

II

In which the author of the *Book of Distillation* reveals his failure entirely to emancipate himself from alchemy's acceptance of astrology and superstition:

Chapter CLVII Water of creuys

[157] "Cancer in latyn/the beste parte + tyme of hys dystyllacyon is the quycke creuyces whan the mone is at full/stamped and dystylled . . ." [for palsy, burns]

Chapter CCXII Water of peche leues

[212] "Folis persicorum in latyn . . . The best parte and tyme of theyr dystyllacyon is/the leues stropped of in the cressynge of the mone/whan she is almoste full/dystylled in the ende of the may."

Chapter CCXLV Water of saynt Johnsworte

[245] "Scopia regia/yperycon vel herba sancti Johannis vel herba perforata in latyne . . . Muri domus consperci eū aqua ista/valet contra diabolicam illusionem . . ." [when the walls of the house are sprinkled with this water it is effective against diabolical illusion]

Chapter CCXXX Water of Rue or herbe of grace

[230] "Ruta in latyn . . . who so hathe the same water in his howse can nat be hurte of the deuyll by the grace of god . . ."

III

Chapter CLXVIII Water of moderworte

[168] "Citraria vel Melissa in latyn . . . Of the same water dronke a spone full fastynge/causeth in a man to haue sharpe wytte/good understandynge/and good memory and remēbraunce/for to kepe and remembre euery thynge that is possyble for a man to remembre . . . The same water dronke an ounce and a halfe/causeth them to be mery and refressht agayn/which were afore sore greued with anger/it maketh also softe and good myndes/and an amyable colour . . . The same water preserueth a man from gray heres/twyse dronke of the same water in a day . . . and the heres wet with the same water/and let drye agayn by hym selfe . . . The same water is very good for hym whose tonge is greued with such sekenes nat of nature/that he can not speke/he shall take a blew wollen clothe wet in the same water/and the tongue often wasshed therwith and than it shall become hole agayne/and the speche also."

Chapter:— "A fayre addycyon of an other master of the vertue of aqua vite . . ."

(*first citation*)

". . . Aqua vite . . . gyueth also yonge corage in a person/and causeth hym to haue a good memory and remembraunce. It puryfyeth the fyue wyttes of melancoly + of all unclennes whan it is dronke by reason + measure. That is to understande fyue or syx droppes in the mornyng fastyng with a sponefull of wyne/usyng the same in the maner aforsayde the yll humours can nat hurt the body/for it withdryueth them out of the vaynes . . ."

Chapter XCI Of fenell herbe water

[91] "Feniculus in latyn . . . Of the same water dronke amonge/at eche tyme an ounce + the drynke myxced therewith wythdryueth and taketh away the lechery."

Chapter CIX The water of the yellow vyolettes

[109] ". . . Of the same water dronke in the mornynge and at nyghte at eche tyme an ounce/is good for them that haue loste theyre wyttes . . .

Dronke of the same water/at eche tyme an ounce and a halfe/thre or foure wekes contynuynge/eawseth the women to be fruytfull . . . In the mornynge + at nyght dronke of the same water at eche tyme an ounce + a halfe contynuynge vii or viii dayes is good for men or women which euer be besy in worke of generacyon . . . the same water sharpeneth the wyttes + understandynge . . . the same water . . . reioyseth and eawseth to be mery the harte and mynde of a man . . . and it warmeth the mary in the bones and dryeth oute the colde blode."

Chapter LIX Water of Cardo benedictus

(*first citation*)

[59] "Cardo benedyctus in latyn . . . The same water dronke in the same mesure is good against the payn comynge in the hed aboue the eyē/named Epicranea/that is whā a body thynketh that a nayle is beten thrughe his hede.

The same water . . . cawseth good memory/and conforteth the remembraunce."

Domestic tranquility:

Chapter LXVI Water of valerian

[66] ". . . A man and a wyfe maryed to gyder and can not well agre to gydre/them shall be gyuen to drynke of the same out of one vessell or pot and they shall agree."

Further notes on memory:

Chapter LXXIX Water of Veronica
(*first citation*)

[79] "... dronke of the same water is pryncypally good aboue all waters for the memory and remembraunce/whā the hede is enoynted therwith outwarde/and let drye by hym selfe agayne bycawse it conforteth the hede and braynes/and lyghteth the tongue/and clenseth the blode."

And again!

Chapter CLXXII Water of Maryolayn

[172] "... Samsucus in latyn ... dronke of the same water ... and the hede enoynted therwith/causeth a good remembraunce and memory ..."

On mental and physical hygiene:

Chapter LXXIII Water of straw beryes
(*first citation*)

[73] "Frage in latyn ... It is good for them whose nature mounteth upwarde in the face and the face becometh red/yf the face be washed therwith/it vanyssheth awaye ...

The mouthe often wasshed with the same water/is good agaynst a stynkynge mouthe ..."

Silence is golden (Returning to Veronica):

[79] "... In lykewyse synketh the great anger + upblowynge of the longue/whan a dragma of the powder of the same drye herbe veronica is myxed wyth the same water of the Veronica/ and so dronke/bycawse of no membre cometh so moche payn and woo as frome the longue/for whan the membres be in reste and quyetre/than the longue is euer rysynge up and labourynge/ whether a person be slepynge or watchynge/ euer is the longue labouryng with blowynge and unclenes/... The wynd is come all orygynally from the longues. Therfore it is a very wyse man whyche that can refrayne the tongue and the longue."

Chapter CCIII Buglossa

[203] "... In lykewyse I my selfe haue sene in the towne of Couelence in Almayne a scole mayster which had studyed so moche that he had loste his wyttes. Than came there an unlerned Empyricus and dyde gyue hym to drynke of the same water/and chopped the herbe for his meate/and the herbe stamped/he dyd laye unto hys hede plaster wyse/thre or foure wekes contynuynge/wherwith he became fully hole and well amended/and gate his wyttes agayn/and he studyed moche more than he dyd before

... dronke [thrice daily] an ounce and a halfe + his wyne myxced therwith causeth good understandynge + memorye

For the perfect host:

... It is sayde also yf a great company were syttynge at dyner or soupper/and were sprynkled with the same water/it sholde cause them all to be mery ..."

Courage!

Chapter CCXXVI Water of Rosemary
(*first citation*)

[226] "Ros marinus in latyn ... dronke of the same water/at eche tyme two oūces/cawseth a man to be courageus for it conforteth the substance of the harte/and it is also good agaynste the wofull payne of the harte."

Chapter CCLXXV Water of Wormewode

[275] "Absinthium in latyn... The same water hath ryght merueylous great vertues/for it is said of dyuers persons/that the iuce or water of the same herbe hath be gyuen for a token in maner of incantacyon unto great captayns or conductours of an hoste or armey/beleuynge that thrugh suche a token/they sholde haue vyctorye agaynste theyr enemyes but how it shold be occupyed/I can nat tell

... Put of the same water in ynke that ye wyll wryte with/and the bokes that be wryten therwith/shall be preserued from the eatynge of the myce."

IV

For the bald set:

Chapter:—

"A fayre addycyon of an other master of the vertue of aqua vite..." (*second citation*)

"Aqua vite ... whan it is dronke and the hede enoynted therwith the space of xx dayes/it heleth alopiciam/or whā it is dronke fastynge with a lytell tryacle It causeth the here to grow well + kylleth the lyce and flees ..."

Chapter CXXI Of Hony water

[121] "Mel in latyn ... The hede oftē wasshed + rubbed therwith causeth to grow fayre + lōge heres."

Chapter CCXXVI Water of Rosemary

[226] ... "The hede wasshed with the same water/and lette drye agayne by hym selfe/ preserueth the fallynge out of the heres + cawseth more for to growe."

Chapter CCIX Water of pereely

[209] "Petrocilium in latyn. . . Any place that is enoynted with the same shall waxe balde/and it takes away the heres of the same place."

V

Tall tales department:

Chapter: "A fayre addycyon. . ." Brome flowre water.

". . . whoso drynketh in the mornynge ii or iii oũces is preserued from the thyrst all that daye."

Chapter LXV Water of Fumytory

[65] "Fumus terre in latyn. . . Drõk of the same in the mornynge + at nyght at eche tyme two oũces/four or fyue wekes cõtynuynge is good for euyll fauoured faces + maketh them fayr + pale of colour."

Chapter LIX [Cardo benedictus again] (*second citation*)

[59] ". . . It happened upon a tyme that a man was slepyng under a tree + a snake of an ell longe was crept in his throt + to hym was gyuẽ fyue or syx droppes of the same water/and anone the snake came out agayn + dyed."

For broken bones:

Chapter LXIIII Water of centory

[64] "Centaurea in latyn . . . whan one hath broken a bone in his body than he shall drynke of the same water luke warme in the mornynge + at nyght at eche tyme an ounce for it heleth + consolydeth toged agayn."

Chapter LXIII Water of straw beryes [again] (*second citation*)

[73] ". . . The same dronk in the mornīge + at nyght is good for them that hathe broken a bone or a legge."

Jungle medicine:

Chapter LXXIX Veronica [again] (*third citation*)

[79] ". . . It is redde of a lytel venymous worme smaller than a Scorpyon/whyche kylleth the yonges of the lyon with his venymous stynges. And whan the lyon perceyueth it/then he choweth of the same herbe/and layth it upon the venymous swellynge of his yõges/than it shal be no harme to thẽ but they shall become hole agayne/

Also it is redde of a bere/whã he is to fatte/ thã he eateth of y same herbe/whã he can get it/ + therwith he becometh lene and well dysposed and bolde/lykewyse the bere when he hath sene great oxcen/than he desyreth to haue and to eate the fattest of them/but yet he is afrayde. But as sone as he hath eaten of the same herbe/than he becometh bolde and taketh the fattest oxe without feare/

It is redde of the bere/whan he is seke than he eateth pysmer/+ thã he becometh hole and eased/and after that he eateth so moche of them that he can not dygest them in his nature/than he falleth somtyme in swowne and fayntnes. Than he eateth of the herbe Veronica/+ thercof he getteth the laske + therof he become agayn hole. It is redde that the garye water snakes engendreth them with the ealc/a fysshe called Anguilla in latyn. And whan the eale hath cõceyued/thã she becometh so colde of the venymous nature of the snayle that she can not suffre the water no longer/and than she crepeth often out of the water and seketh the same herbe/ and eateth it + than the yonges must nedes departe from her/and dye before or they be warped. And yf it be that the eale can not fynde the same herbe/than the yonges kyll her or they be warped . . ."

Chapter CLXIX Water of May or parke floures

[169] "Lilium conuallium in latyn. . . The same is good for any body that is hurt or harmed by styngynge of any venymous beste or other wormc/as a spynner/or suche lyke . . . What maner of persone that is stynged with a bee/or a waspe/or with other stynges/he shall laye a eloute wet in the same water therupon in the mornyge + at nyght . . .

In the mornynge and at nyght dronke of the same water/. . . and the hede therwith enoynted/ conforteth the braynes/and strengtheth the mynde or the wyttes . . .

With the same water often the tongue enoynted/causeth one to come to his speche agayne. . ."

Rosemary once more:

Chapter CCXXVI (*third citation*)

[226] ". . . In the forsayd maner dronke of the same water/sharpeneth the tongue and cawseth well to speke. And no body can tell the myght and vertue of the same water.

. . . the face wasshed with the same water/ causeth a fayre and clere face.

. . . The same water cawseth a body to appere longe tyme fayre and yong/whan it is dayly used/mycced with his drynke a lytell/and outwarde therwith rubbed.

. . . It causeth the womẽ to be frutful whã they make a bath of his decocciõ/the same bath is also a bathe of lyfe/a restraynynge + a with-

drawyng of age/a renewyng of a body/for it hath many secret vertues . . ."

Chapter CCXLVIII Water of corona regia

[248] ". . . The same water is good for them that haue euyl hasty moued wyttes/cloutes wet therin + bounde upon the hede. The same water shall be dronk of noble prynces and gouernurs of lōdes + regyons that sholde be wysely gouerned + of all them that wolde goucrne themselfe by wysdom."

For the ladies:

Chapter LXXIX Water of Veronica

(*fourth citation*)

[79] ". . . In the mornynge fastynge dronke two ounces of the same water v or vi wekes contynuynge/causeth a body to become lene of flesshe . . .

The same water with the powder dronke in the maner aforsayd is good for women that be fatte and wolde fayne bere chylde + be lene/bycause she myght the better conceyue/for it dysposeth the women to conceyue. And lykewyse as fyre purgeth the golde/so purifyeth the same water the womē for to conceyue a chylde."

Chapter CLXVII Water of Lauendre

[167] "Lauendula in latyn . . . A nutte shell full of the same water myxeed with other water/wherof is made dowgh/so what brede is bakē of the same dowgh shall nat waxe moldy."

Annotations[2]

Note to the reader: To facilitate the use of the following annotations, the Roman numeral designations of the text have been replaced here by Arabic numerals and the citations placed in numerical order, rather than preserving the order in which the cited passages appear in the text of the present paper.

Where any chapter is drawn upon more than once, the citations are designated as "first," "second," and so on.

Chapter	*Line*	
59		(*first citation*)
	4	eyē—eyes
	4	a nayle is beten—a nail is beaten, (a rather effective description!)
		(*second citation*)
	3	ell—forty-five inches
	4	gyuē—give
64	2	whan—when
	4	togēd—together
65	1	fumytory—common name for a species of the genus Fumaria (from Latin-fumus terrae, "smoke of the earth," so named because of its odor)
65	2	drōk—(dronk), drunk
	4	euyll fauored faces—evil-favored faces. (If Brunschwig merely meant aene this might not be a very tall tale.)
73		(*first citation*)
	2	whose nature mounteth upwarde in the face and the face becometh red—a surge of emotion(?)
		(*second citation*)
	2	mornīge—morning
79		(*first citation*)
	3	whā—when
	3	hede—head
		(*third citation*)
	2	lytel—little
	6	yōges—young
	6	thē—them
	8	redde of a bere/whā he is to fatte—read about a bear that when he is too fat
	9	lene—lean
	10	sene—seen
	15	seke—sick
	16	pysmer—ants
	19	laske—loose bowels
	20	garye—misprint for gray?
	21	engendreth—beget or propagate
	22	cōceyued—conceived
	27	warped—the young brought forth prematurely

Note: The eel and the snake, being members of different classes of vertebrates, could hardly mate or beget offspring. Though the eel has gills it can scarcely be likened to a snail, and the failure to "suffre the water" is rather reminiscent of an amphibian which has undergone metamorphosis, during which the gills are absorbed and air-breathing lungs have developed. One cannot but wonder whether Brunschwig's source has mistaken some sort of salamander (an elongated amphibian) for the eel (a fish). The reference to the killing of the eel by its young, if they cannot leave the mother's body, is a great misunderstanding of the reproduction of the eel.

[2] Sources:

1. *The Oxford English Dictionary.* Edited by James A. H. Murray, Henry Bradley, W. A. Craigie, C. T. Onions, Oxford, 1933.

2. *Anglo-Saxon Dictionary.* Bosworth and Toller, London, 1954.

3. *The Century Dictionary and Cyclopedia.* William Dwight Whitney, Ed., New York, 1895.

It may be that the eel (or salamander) was filled with parasitic worms, which were mistaken for young eels.

Chapter	*Line*	
		(*fourth citation*)
	8	fyre—fire
109	5	thre—three
	12	mary—marrow
121	2	oftē—often
	4	lōge—long
131	3	thā—then
	3	of—off
	3	helmet—a type of distillation apparatus very commonly used by Brunschwig, in which a cone-shaped head was fitted to the lower part of the still.
131	5	balneum marie—water-bath
	9	medecyns—physicians
	9	meruayll—astonishment
154	5	greued—troubled
	6	clothes—cloths
155	1	to gyddre, (to gyder)—together
	4	per Alebicu—per Alembicum, i.e., in an alembic
	6	than—then
156	1	lyuer—liver
	3	whā—when
157	1	creuys—crawfish
	3	mone—moon
160	4	worowe—strangle
	6	greee—grease
	6	frō—from
	6	clene—clean
	7	pecces—pieces
	9	cōforteth—comforts
	10	reioyseth—rejoices
167	1	lauendre—lavender
	3	dowgh—dough
	4	bakē—baked
	4	waxe—become
168	4	remēbraunce—remembrance
	9	heres—hairs
	12	sekenes—sickness
	12	nat—not
	12	speke—speak
	13	blew—blue
	14	than—then
	14	hole—whole, (well)
169	1	water of May or parke floures—lily of the valley(?)
	4	spynner—spider
203	2	Couelence—Coblenz
	3	scole—school
	4	Empyricus—empiric, quack
207	1	oxce—ox
212	1	leues—leaves
	3	cressynge of the mone—waxing of the moon
222	4	canyculer days—canicular days (dog-days), a certain number of days before and after the heliacal rising of the dog-star
5		iyē—eyes
7		worme in the fynger—ringworm(?)
226		(*first citation*)
	3	oūces—ounces
		(*third citation*)
	3	And no body can tell the myght and vertue of the same water—This belief was held as early as Avicenna, and perhaps even earlier. It is a specimen of the extravagant trust which was placed in certain herbs from time immemorial (and continues to be, by some persons).
	10	womē—women
	11	decocciō—decoction
230	3	deuyll—devil
245	3	cū—cum
	5	diabolicam illusionem—exactly what a diabolical illusion is, presents a difficulty.
248	2	euyl hasty moued wyttes—vicious temper(?)
	4	gouernurs—governors
	5	lōdes—(londes), lands
275	2	merueylous—marvelous
	3	dyuers—divers
	3	iuce—juice
	4	token—a pledge of authenticity
	6	beleuynge—believing
	7	occupyed—used
	9	ynke—ink
	10	bokes—books
	11	myce—mice
300	4	hāde—hand

Chapter called "A fayre addycyon of another master of the vertue of aqua vite . . ."

(This section appears at the end of Brunschwig's book, and the implication is that it was written by another person.)

		(*first citation*)
Line	2	aqua vite—distilled spirits; brandy
	3	gyueth—gives
	5	fyue wyttes of melancholy—(liberates) the five senses from the effects of "black bile," which is a depressant, (according to belief then current)
	6	unclennes—toxic matter
	10	yll humours—body fluids in a morbid

Chapter *Line*

state; (according to medical beliefs of the times, the *cardinal humours* were the blood, choler [yellow bile], melancholy [black bile], and phlegm).

11 vaynes—veins

(*second citation*)

5 alopiciam—baldness

6 tryacle—treacle or theriac, a mixture of many medicinal substances, formerly believed to prevent or cure the effects of poisons or poisonous bites.

Acknowledgment

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1. Sigerist, Henry E.: Hieronymus Brunschwig and His Work. New York, 1946.
2. Sudhoff, Karl: *Deutsche Medizinische Inkunabeln.* Studien zur Geschichte der Medizin. Heft 2/3. Leipzig, 1908, pp. 61–69.
3. Stillman, John M.: Chemistry in Medicine in the Fifteenth Century. Scientific Monthly **6**, 1918, pp. 167–175.
4. Sigerist, Henry E.: *Medieval Medicine.* Philadelphia, 1941.
5. Castiglioni, Arturo: *A History of Medicine.* New York, 1941.

A Dozen Portraits in the College Hall[1]

By FRED B. ROGERS, M.D.[2]

ONE afternoon last year, Mr. Theodor Siegl, Conservator of The Philadelphia Museum of Art, on invitation of the Committee on Mütter Museum and College Collections, made a walking tour of the College's portrait collection. At that time, Drs. Wood, Gibbon and Dyer, Mrs. Wade and Miss Garner, Drs. Gefter, Holling and I were led on a memorable excursion into the fields of art and history. Mr. Siegl's expert review and suggestions about the care and repair of various paintings and drawings were heeded and since then Mr. Will Brown, also a member of the Art Museum staff, has worked at the task of refurbishing the College's fine arts holdings—supported by a special fund voted by Council. The results of this effort have far exceeded the cost and we have become increasingly aware of the beauty and value of this remarkable trove of *Americana*. I have chosen a dozen of the College's portraits to describe briefly at this gathering—portraits outstanding in terms of both artistic merit and subject interest. These portraits are located in the Hutchinson Room—off the first-floor rotunda, in adjacent Thomson Hall, and in the second-floor foyer. May this sample inspire us and stimulate our interest in them and other art works here which time does not permit me to discuss.

Hanging above the paneled fireplace in the Hutchinson Room is a three-quarter length oil portrait of *Dr. Nathaniel Chapman* (1780–1853), painted by the English-born portrait painter *Thomas Sully* in 1817 and presented to the College by Mrs. Henry Cadwalader Chapman in 1909.

Thomas Sully (1783–1872), first a pupil of Gilbert Stuart and later (in London) of Benjamin West, established himself in Philadelphia (1810), where he enjoyed considerable popularity. His dashing brushwork, seen in the Chapman portrait, brings charm to its subject. Sully's other sitters included four Presidents: Jefferson, Madison, Monroe, and Jackson. In her youth, Queen Victoria sat for him.

Dr. Nathaniel Chapman, a native of Virginia and descendant of Sir Walter Raleigh, was a prominent teacher of clinical medicine at his *alma mater*, the University of Pennsylvania, for forty-six years. A polished and witty aristocrat who traveled in the highest circles of his day, Chapman displayed literary and political interests early in life by writing for *The Port Folio,* a magazine founded in Philadelphia in 1801, and by editing four volumes of *Select Speeches, Forensick and Parliamentary,* in 1807–08. His marriage to Rebecca Cornell Biddle of Philadelphia, in 1808, was a fortunate one and their family life was cordial. It is said that the young doctor decided to marry his wife-to-be on hearing about her—before their actual meeting!

Chapman received his M.D. degree in 1801 and, after three years study abroad, settled down to practice in Philadelphia. In 1817 he established the Medical Institute of Philadelphia; it provided instruction for practitioners and has been considered the first 'postgraduate' medical school in the United States. With the publisher Matthew Carey, in 1820, Chapman founded the *Philadelphia Journal of the Medical and Physical Sciences,* which seven years later adopted its present title,

[1] Read at "an evening at the College," arranged by the Entertainment Committee, 2 May 1969.

[2] Chairman, Committee on Mütter Museum and College Collections, The College of Physicians of Philadelphia.

the *American Journal of the Medical Sciences*. This periodical is still published in Philadelphia, by Lea & Febiger, and is now the nation's oldest continuous medical journal. Chapman was also a promoter of the *U. S. Pharmacopoeia*, a drug compendium first issued in 1820 and another publication still active in the world.

Epidemic cholera struck Philadelphia during the summer of 1832—a dreadful episode lasting several months. During this period Dr. Chapman and his colleagues rendered valuable service in treating the sick and setting up hospital facilities for their care. Chapman was one of thirteen physicians awarded silver pitchers by the City of Philadelphia for their heroic labors. The handsome pitcher given to him is now on display here—a gift in 1966 of his great-great grandson, Mr. Sydney Thayer, Jr., of Bryn Mawr.

Prominent professionally and socially, Nathaniel Chapman was chosen as the first president of the American Medical Association at its organizational meeting in Philadelphia on May 5, 1847. This capstone of his career attested to the fact that he stayed at the helm despite professional controversies which raged around him in a period of medical feuds and stormy associates. In the spring of 1850, illness forced him to relinquish his teaching and civic interests. He died on July 1, 1853, and was buried at St. Stephen's Episcopal Church—a church which he had helped found in 1823.

A charcoal sketch of *Sir William Osler* (1849–1919), done by *John Singer Sargent* (1856–1925) at his London studio in 1914 and presented to this College in May of that year by Lady Osler, shows the Canadian-born physician in a pensive mood. The artist Sargent, whose father was an early ophthalmologist in Philadelphia, was born in Italy and trained as a painter at the *Beaux-Arts* in Paris. His first exhibit (1877) attracted favorable notice, and by 1885, when he had settled in London, his talents were in demand. Frank in depiction, his portraits of beautiful women, symbolic murals (Boston Public Library), and landscapes in water color are much admired.

William Osler aroused enthusiastic acclaim of colleagues and pupils during a distinguished career in Canada, the United States and England. A man of wide culture and an expert physician, Osler was a prolific writer and speaker on medical and literary topics. In 1884, at age 35, he was called to the chair of clinical medicine at the University of Pennsylvania where he actively pursued clinical and clinico-pathological studies. He afterwards referred to his Philadelphia stay, especially his experiences in the wards and deadhouse at "Blockley," as the most instructive of his career. (The deadhouse, now the Osler Memorial Museum, still stands on the Philadelphia General Hospital grounds.) While in Philadelphia, Osler was also an active member of the Library Committee of The College of Physicians of Philadelphia, and he continued an interest in its resources after leaving in 1889 to become the first professor of medicine at the newly founded Johns Hopkins Medical School at Baltimore.

In Philadelphia too, Osler met and married his wife, the widow Grace Revere Gross; they were wed at St. James' Episcopal Church in May 1892. Two years later he returned to Philadelphia to speak at the opening of The Wistar Institute of Anatomy and Biology—and he willed his brain to that institution to enrich its neuroanatomical museum. Sir William and Lady Osler died at Oxford, England; their ashes and his 7,600 volume historical library are now at his medical *alma mater*, McGill University, Montreal, Canada.

The oil portrait of *Dr. Charles Caldwell* (1772–1853), painted by *Thomas Sully*, conveys the belligerent personality of the subject. A native of North Carolina and medical graduate of the University of

Pennsylvania (1796), Caldwell occupied the chair of natural history at the University from 1810–18. A pupil and friend of Dr. Benjamin Rush, he subsequently quarreled with him and the trustees. In 1818 Caldwell left Philadelphia for Lexington, Kentucky, where he became professor of *materia medica* at Transylvania University, whose medical department he had helped to organize. He moved to Louisville in 1837 and established the Louisville Medical Institute, afterwards merged into the University of Louisville as its medical school. Rivalry between the towns of Louisville and Cincinnati brought Caldwell a prominent role in the medical affairs of the Mississippi Valley.

Caldwell's father had come to this country from the North of Ireland. The son, whose early opportunities for education were limited, demonstrated extraordinary ability—rising to head a literary academy at age 18. While a medical student he served valiantly in the yellow fever epidemic of 1793 in Philadelphia. Later he was surgeon of a brigade during the "Whiskey Insurrection" in the summer of 1794, an uprising of farmers in western Pennsylvania against an excise tax on distilled liquors. His *Autobiography*, published after his death (1855), is a remarkable repository of medical scandal. William Osler, discussing "Some Aspects of American Medical Bibliography" in 1902, wrote of this book: "Caldwell's *Autobiography* is a storehouse of facts (and fancies!) relating to the University of Pennsylvania, to Rush and to the early days of the Transylvania University and the Cincinnati schools. Pickled, as it is, in vinegar, the work is sure to survive."

An oil portrait of *Dr. William Potts Dewees* (1768–1841), painted by *John Neagle* (1796–1865), was given to the College by its Fellow, Dr. I. Minis Hays (1847–1925). The likeness of Dr. Dewees shows a handsome, winning face.

Boston-born, John Neagle's professional career was spent in Philadelphia. He began work as an assistant to a coach painter and by ability rose to be a respected artist. His portrait of Gilbert Stuart is the best one of that fascinating personality. Neagle's famous full-length canvas, "Pat Lyon at the Forge," graces the Pennsylvania Academy of the Fine Arts, as does a landscape, "View on the Schuylkill," the Art Institute of Chicago.

William Dewees was the great-grandson of Swedish immigrants; his mother was a daughter of Thomas Potts, founder of Pottstown, Pa., where his grandson was born. After medical training at the University of Pennsylvania, Dewees began practice at age 21 with an M.B. degree. After practicing for some time, he returned to the medical school and took his M.D. degree in 1806. His doctoral thesis was entitled, "Lessening Pain in Parturition;" Prof. William Shippen, Jr. called its message an historic one.

In 1810 a professorship in obstetrics was established at the University of Pennsylvania with the proviso that student "attendance should be optional for graduation." Dr. Thomas Chalkley James was appointed to this chair. In 1825, Dewees became adjunct professor, and nine years later succeeded James. Dr. Dewees built up a large obstetrical clientele and, "patients, it was said, postponed their confinements until he was at leisure" (Waterson). In 1824 he published his *System of Midwifery*, which ran through twelve editions; in 1825, *A Treatise on the Physical and Medical Treatment of Children*—the first American textbook on pediatrics; and in 1826, *On the Diseases of Females*, both books running to ten editions.

An oval portrait of *Alexander von Humboldt* (1769–1859), German explorer, naturalist and statesman, was painted by *Charles Willson Peale* (1741–1827) on the former's visit to Philadelphia in June 1804. The artist, then aged 63, completed this portrait in three days; his sitter was 35

years old. In this situation one genius captured another on canvas. For Peale was a man, like his friend, Benjamin Franklin, of catholic interests and diverse talents. Best remembered as a portrait painter, he was also a civic leader, soldier and naturalist. A pupil of John Singleton Copley in Boston and Benjamin West in London, Peale in 1805 was instrumental in founding the Pennsylvania Academy of the Fine Arts. Versatile in applied science and art, he painted portraits of many leaders and visitors in the early years of our nation. (George Washington sat for Peale at least seven times, and from these sittings the artist produced sixty portraits of him.) Thrice married, Peale was the father of seventeen children, several of them very talented.

Alexander von Humboldt, a disciple of the great Goethe, traveled in South America, Mexico, and the United States during the years 1797–1804. He explored the course of the Orinoco and found the communication between the waterways of the Orinoco and Amazon Rivers. The Humboldt Current—a cold Pacific Ocean current flowing north along the coasts of Chile and Peru, Humboldt River in Nevada, Humboldt Bay off California, and Humboldt Glacier—the world's largest—in Greenland, honor his name. So does the mineral Humboldtine (ferrous oxalate) and Humboldt's Sea on the surface of the moon. (Humboldt University in Berlin is named for the philologist, diplomat and man of letters, Wilhelm von Humboldt [1767–1835], the elder brother of Alexander.)

From 1808–27 Alexander resided in Paris, collaborating with the French scientist, Gay-Lussac, in chemical experiments. Humboldt is credited with the first description of choke-damp and fire-damp in mines, and he devised a gas-mask and safety lamp to protect miners from these dangers. In 1829, under the patronage of Czar Nicholas I of Russia, he led an expedition into North and Central Asia, by which was extended our knowledge of mountain chains, plant distribution and climate. In 1830 Humboldt became envoy from Prussia to France, serving in this capacity for eighteen years. His last and greatest work, *Kosmos*, a five-volume treatise on natural philosophy published between 1845–62, was widely translated.

A full-length oil portrait of *Dr. William Thomson* (1833–1907), painted by *Thomas Eakins* (1844–1916), adorns the rear wall of the College hall named in his memory. This large (74 x 48″) portrait is our outstanding item of recent years, the one most borrowed for exhibit elsewhere and commanding the highest insurance premium.

Thomas Eakins, a life-long resident of Philadelphia, studied art and anatomy both at home and abroad before he began teaching at the Pennsylvania Academy of the Fine Arts (1876–86). Employing the technical skill of an engineer, he laid out perspective with mechanical drawings, and his effort to capture body movement led him to become a pioneer experimenter with motion pictures. A realist, he painted without romantic gloss, and late in life began to enjoy a little of the superlative reputation his name now holds. *The Gross Clinic* (Jefferson Medical College) and *The Agnew Clinic* (University of Pennsylvania) are favorite medical canvases by Eakins.

Dr. William Thomson, a graduate of Jefferson Medical College in 1855, was an early ophthalmologist in Philadelphia and a pioneer in the study of refraction. With Dr. William F. Norris, also a prominent Fellow of this College, he promoted the systematic refraction of patients' eyes. With Dr. S. Weir Mitchell, Thomson drew attention to the importance of "eye-strain" as a cause of headache, which refraction often relieved. He was also interested in color-blindness and modified Holmgren's wool-skein test for its detection. Himself affected with hypermetropia, he made important investigations on this condition

and also on astigmatism. Dr. Thomson served with the Union Army Medical Corps during the Civil War, was surgeon to Wills Hospital from 1872–77, and participated in the International Medical Congresses of 1872, 1876 and 1881.

A portrait of *Dr. Plunket Fleeson Glentworth* (1769–1833), painted in oils by *Gilbert Stuart* (1755–1828), depicts the subject wearing a ruff, jabot and lace shirt-cuffs, and holding a book in his right hand. This portrait, which was exhibited in the Pan-American Exposition at Buffalo, N. Y., in 1901, was donated to the College in 1948 by the doctor's great-grandchildren, Henry R. and Marguerite L. Glentworth.

Gilbert Stuart, born in Rhode Island, was the most celebrated portrait painter of his day. For five years (1775–80) he studied in London under Benjamin West, whose star pupil he became. After achieving fame in London and Dublin, he returned to America in 1792. In New York and Philadelphia (1792–96), Stuart made three portraits of Washington, painted from life. Among Stuart's other sitters were Presidents Jefferson, Madison, and Monroe. In 1805 he settled in Boston, where his reputation allowed him to select his commissions. At their best his character studies are lifelike and luminous, and they have given him an unrivaled reputation in American portraiture.

Dr. Plunket Glentworth was the son of Dr. George Glentworth (1735–92), one of the founders of this College in 1787, and his wife née, Margaret Linton. The son, who is mentioned in the famous novel, "The Red City," by Dr. S. Weir Mitchell, took his M.D. degree at the University of Pennsylvania in 1790. In the following year he served as secretary of the University, and in 1792 was elected a Fellow of The College of Physicians of Philadelphia. He counted George Washington among his patients. In a letter dated April 20, 1797, our first President wrote: "Thanks to the kind attention of my esteemed friend Dr. Glentworth . . . than whom no nobler man nor skilful physician ever lived, I am now restored to my usual state of health."

Dr. Glentworth, in 1805, was one of the founders of the Pennsylvania Academy of the Fine Arts at Philadelphia. Thereafter he moved to Trenton, N. J., where he served as a warden of St. Michael's Episcopal Church from 1820–24. During this interval he was physician to Joseph Bonaparte, exiled brother of Napoleon I, at the former's estate, "Point Breeze," in nearby Bordentown. A busy and fashionable practitioner, Dr. Plunket Glentworth died in January 1833, and was interred in the family vault at Old St. Paul's Episcopal Churchyard, Philadelphia.

An oil portrait of *Georges Cuvier* (1769–1832), painted by *Rembrandt Peale* (1778–1860), pictures an eminent French naturalist and statesman. The red ribbon of the *Légion d'Honneur* decorates his left coat lapel.

A son of Charles Willson Peale, Rembrandt Peale was, like his father, a pupil of Benjamin West, and on his return from Europe, devoted himself chiefly to portraiture. An original member of the National Academy of Design, in 1825 he succeeded John Trumbull as president of the Academy of Fine Arts. Rembrandt Peale's idealized likeness of George Washington (1823) hangs in the National Capitol.

Georges Cuvier was born in Montbeliard, France. Inspired by the work of Buffon, he studied natural history at the Academy of Stuttgart, Germany. In 1795 he was appointed assistant to the professor of comparative anatomy at the *Muséum National d'Histoire Naturelle* in Paris. An investigator in zoology, geology and paleontology, Cuvier greatly advanced the science of comparative anatomy. His name is recalled by the embryological ducts of Cuvier: two short venous trunks in the fetus opening into the atrium of the heart; the right one becomes the superior vena cava.

Cuvier's greatest work is *Le Regne Animal* (The Animal Kingdom), 1817, a treatise in which he arranged all organisms in the four great classes of vertebrates, mollusks, radiates and articulates. He became perpetual secretary of the French Academy of Science in 1803, and councilor of the Imperial University five years later. Napoleon I made him a councilor of state in 1814, and Louis Philippe named him a peer of France seventeen years later.

At Cuvier's suggestion, in 1819, the world's first independent professorship of pathological anatomy was established at the University of Strasbourg. Dr. Jean F. Lobstein (1777–1835), author of a *Traité d'anatomie pathologique* (1829), occupied this chair. Lobstein's disease, osteogenesis imperfecta, recalls his name.

Cuvier made significant contributions to science, but he was a foe of the evolutionary ideas of Lamarck and Darwin. Louis Agassiz (1807–73), Swiss-born physician-naturalist of Harvard University, was a favorite pupil of Baron Cuvier at the Paris *Jardin des Plantes* before coming to the United States.

The bust portrait of *Joseph Louis Gay-Lussac* (1778–1850), by *Rembrandt Peale*, is a companion in size and style to that of Georges Cuvier by the same artist. Each was presumably painted from life before Peale returned to Philadelphia from Europe in the year 1810. The artist's signature appears in the lower right corner of the canvas front on the Gay-Lussac portrait: "painted in wax by Rem. Peale 1810."

Gay-Lussac, an eminent French scientist, pioneered in the study of the gaseous state. In 1804 he made the first balloon ascension for the purpose of scientific inquiry, rising on a second ascent in that year to over 23,000 ft. above sea level. This work placed him among the founders of meteorology. In 1808 he traveled to Italy with Alexander von Humboldt to study the law of magnetic declination. In the same year he was appointed professor of physics at the Sorbonne—a position he held for twenty-four years. In 1810 he also became professor of chemistry at the *École Polytechnique* in Paris. During the years 1823–24, the brilliant German chemist, Justus von Liebig, worked with him in his laboratory.

With Humboldt, Gay-Lussac carried on an investigation of the polarization of light. In chemistry he discovered ethyl iodide, hydrosulfuric and hypochlorous acids. Gay-Lussac's gas law recalls his name: at a constant pressure the volume of a given mass of perfect gas varies directly with the absolute temperature.

An oil portrait of *Dr. Thomas Cooper* (1759–1839), painted by *Charles Willson Peale*, captured the scowl of an agitator and freethinker of his day. A student at University College, Oxford, trained in law at the Temple, Cooper attended anatomical lectures in London, took a clinical course at Middlesex Hospital and later at Manchester attended patients under a preceptor. But for his father's insistence upon the law, he probably would have become a practicing physician. In 1817 a University of New York conferred upon him the honorary degree of M.D., which he flaunted thereafter.

In 1794 Cooper emigrated from England when he was threatened with persecution because of his strong sympathies for the French Revolution. A prolific author, he had already published writings on education, history, law, electricity and optics. In the United States, he practiced law at Northumberland, Pa. until 1804, then served as a state judge for Luzerne County until 1811. While editor of a violently Republican newspaper, Cooper's slanderous attacks on President John Adams in the matter of the Alien and Sedition Acts led to his being fined and imprisoned. Adams dubbed Cooper a "learned, ingenious, scientific, and talented madcap." Judge Cooper was subsequently impeached

and removed from the Pennsylvania bench because of the freedom and force of his opinions.

Like his friend and fellow-exile, the Rev. Joseph Priestley, with whom he collaborated in scientific research, Cooper was esteemed by President Thomas Jefferson. The latter procured Cooper's appointment in 1811 as first professor of natural science and law at the University of Virginia. At that time Jefferson called him "the greatest man in America in the powers of his mind and acquired information and that without single exception." Cooper, however, resigned the appointment due to the delay in opening the university and because his Unitarian religious views were so hotly denounced by the Virginia clergy.

After teaching chemistry at Dickinson College (1811–15) and the University of Pennsylvania (1815–19), Cooper accepted a chair in chemistry at the University of South Carolina. Elected president of the institution in the following year (1820), he also taught political science. His *Lectures on the Elements of Political Economy*, published in 1826, was a pioneer textbook on the subject.

Though heralded for his enlightened views on education, Cooper's vehement anticlericalism led to a 'trial' for atheism, and to his resignation from the South Carolina university presidency in 1834. A champion of free trade and state sovereignty and an advocate of the institution of slavery and political nullification, he helped prepare the way for secession. At a spirited anti-tariff meeting at Columbia, S. C., in 1827, Cooper asked his listeners, "Is it worth our while to continue this Union of States, where the North demands to be our masters and we are required to be their tributaries?"

President John Quincy Adams shared his father's dislike for "Old Coot"—to borrow a student nickname applied to Cooper by the gynecologist, Dr. J. Marion Sims. Adams wrote in 1838 of the "English atheist South Carolina Professor, Thomas Cooper, a man whose very breath is pestilential to every good purpose." It is recorded that at Cooper's funeral, his firm supporters and ardent detractors found it difficult not to resort to blows!

In contrast to the stormy petrel just described, the oil portrait of *Dr. Robley Dunglison* (1798–1869), painted by *Thomas Sully* in 1868, reflects the kindly manner of the man. With full beard, it shows the well-liked physician late in life. Dr. Dunglison and his wife, Harriett, were devotees of music: this portrait formerly belonged to the Musical Fund Society, of which Dunglison was a president, and from which it was purchased for the College in 1957 by Drs. Jonathan E. Rhoads and Lewis C. Scheffey.

A native of Keswick, England, trained in London, Edinburgh and Paris, Robley Dunglison took his M.D. degree at the University of Erlangen in Germany (1823). Two years later he was imported by Thomas Jefferson to establish the school of medicine at the University of Virginia. Moving thence to the University of Maryland (1833–36), he finally settled at the Jefferson Medical College of Philadelphia (1836–68), where he was professor of physiology and later dean of the faculty. Dunglison was a respected leader during an era of stormy Hippocrats. Dr. Oliver Wendell Holmes once described him as "the great peace-maker." A skilled practitioner, he attended at times Presidents Jefferson, Madison, Monroe, and Jackson.

Dr. Dunglison compiled an excellent medical dictionary which went through 23 editions, and wrote a wide array of textbooks on nearly every subject but surgery. Much interested in pediatrics and preventive medicine, he recognized a type of chronic hereditary chorea in adults, now called Huntington's chorea, thirty years before Dr. George Huntington fully described the disorder in 1872. Dunglison's course of lectures on medical history was

published posthumously by a physician-son as the "History of Medicine from the Early Ages to the Commencement of the Nineteenth Century."

An oil portrait of *Dr. William Williams Keen* (1837–1932), president of this College in 1900–01, painted by *James L. Wood,* shows the great surgeon in a sitting pose with his Phi Beta Kappa key from Brown University (1859) conspicuously displayed. Mr. Wood, the artist, was an exhibitor at the Pennsylvania Academy of the Fine Arts from 1893–99. He painted four other portraits owned by the College, those of Drs. Joseph Leidy, Frederick A. Packard, Nathaniel A. Randolph, and Horatio C. Wood.

W. W. Keen is best remembered as a pioneer in neurosurgery; he successfully removed a meningioma in 1888, tapped the cerebral ventricles in the following year, and gradually acquired wide experience in the extirpation of brain tumors. He was an eloquent American supporter of Dr. Joseph Lister's doctrine of antisepsis, and was among those who welcomed the great British surgeon on his visit to Philadelphia in 1876.

In his final year of medical school, Keen left Jefferson Medical College to serve with the Union Army. Returning to obtain his M.D. degree in 1862, he saw two more years of service as a medical officer—including the Battle of Gettysburg. Also during the Civil War he worked with Drs. S. Weir Mitchell and George B. Morehouse at the Turner's Lane Military Hospital in Philadelphia, a 275-bed center for neurological casualties. These three men made important studies of gunshot and other wounds which were afterward expanded into an important book, *Injuries of Nerves and their Consequences* (1872).

Dr. Keen became professor of surgery at the Woman's Medical College of Pennsylvania in 1884, and assumed the chair of surgery at Jefferson five years later. In September 1893, when a financial panic was threatening the nation, President Grover Cleveland's physician urged excision of a large malignant-looking ulcer from his patient's hard palate. After careful planning, Cleveland was operated upon aboard a yacht, the *Oneida,* off New York City. Two surgeons—Drs. Joseph D. Bryant of New York and W. W. Keen of Philadelphia, an anesthetist, a dentist and an internist were the professional team. Cleveland's right upper maxilla was resected and a prosthesis fitted. The operation having been kept a secret, the President was able to appear before a joint meeting of Congress a month later—to bolster confidence and avert financial turmoil. Dr. Keen subsequently wrote an account of the surgery, and Cleveland's right upper jaw with several teeth and the cheek retractor Keen used on that historic occasion are now in the Mütter Museum.

Dr. Keen served with the Army Medical Corps in three wars: Civil War, Spanish-American War, and World War I. From 1876–89 he taught anatomy to students at the Pennsylvania Academy of the Fine Arts. Of Baptist persuasion, he was deeply religious and wrote a book entitled *I Believe in God and Evolution* (1922). He died at the age of 95, full of years and honor.

With the portrait of Dr. Keen, painted in 1901, we come into this century and conclude our brief tour. Like Cesare, the somnambulist in the cinema classic *The Cabinet of Dr. Caligari,* the casual visitor to The College of Physicians of Philadelphia may be unaware of the wonders around him. Although I cannot compare myself to the late Werner Krauss in the role of guide, it is a pleasure to introduce you to a few of the treasures of art, literature, science and healing in the handsome Hall of the College. Each person is free to choose a favorite from among the varied attractions that we share.

List of the Kate Hurd Mead Lectures in Medical History, I–XX

THE Kate Hurd Mead Class of 1888 Lectures in Medical History, of the Woman's Medical College of Pennsylvania, are regularly presented at The College of Physicians of Philadelphia under the joint auspices of its Section on Medical History and the Woman's Medical College of Pennsylvania. A number of the lectures were not published in the College's *Transactions & Studies* because of the imminent appearance of the materials in books scheduled for publication by the lecturers.

I. Pepper, O. H. Perry: Medical History in Medical Words (13 Jan. 1950), *Trans. & Stud. Coll. Phys. Philadelphia*, 4th s., **18**: 29–37, April, 1950.

II. Bett, Walter R.: The Pathology of Genius (13 Feb. 1950).

III. Shryock, Richard H.: Women in American Medicine (14 April 1950).

IV. Leake, Chauncey D.: The Old Egyptian Medical Papyri (17 April 1952).

V. Nettleship, Anderson: A View of What Primitive Man Thought of Disease (26 Feb. 1953).

VI. Tucker, David A., Jr.: Medical Education and Practice in the Ohio Valley, 1780–1860 (25 March 1954).

VII. Stevenson, Lloyd G.: Biography versus History, with Special Reference to the History of Medicine (21 April 1955), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **23**: 83–93, Aug., 1955.

VIII. Finch, Jeremiah S.: The Lasting Influence of Sir Thomas Browne (3 April 1956), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **24**: 59–69, Aug., 1956.

IX. Stevenson, R. Scott: The Changing Scene in Harley Street (9 April 1957), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **25**: 87–96, Aug., 1957.

X. Tilton, Eleanor M.: Science and Sentiment: a Study of Oliver Wendell Holmes (15 April 1958), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **26**: 89–98, Aug., 1958.

XI. West, Herbert F.: Rabelais, Sterne, and Osler (7 April 1957), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **27**: 60–73, Oct., 1959.

XII. Miller, Genevieve: The Unicorn in Medical History (19 April 1960), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **28**: 80–93, Oct., 1960.

XIII. Wright, Arthur Dickson: The History of Opium (21 Feb. 1961), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **29**: 22–27, July, 1961.

XIV. Schmidt, Carl F.: Some Experiences with Chinese Drugs (27 March 1962), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **30**: 66–72, Oct., 1962.

XV. Corner, George W.: George Hoyt Whipple, Nobel Prize Pathologist (19 March 1963), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **31**: 40–41, July, 1963.

XVI. Rose, Edward: John Coakley Lettsom and English Medicine in the Georgian Period (21 April 1964), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **32**: 57–59, Oct., 1964.

XVII. Bell, Whitfield J., Jr.: James Hutchinson . . . Letters from an American Student in London (26 April 1966), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **34**: 20–25, July, 1966.

XVIII. Polcino, Sister M. Regis: The Medical Mission Sisters (18 April 1967), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **35**: 1–25, July, 1967.

XIX. Lesky, Erna: History of the Vienna General Hospital (13 Feb. 1968).

XX. Rogers, Fred B.: Dr. William Bryant 1730–86: American Physician and Antiquary (15 April 1969), *Trans. & Stud. Coll. Phys. Phila.*, 4th s., **37**: 99–105, Oct., 1969.

W. B. McDaniel, 2d

Memoir of William Bates 1889–1967*

By NORBERT J. SCHULZ, M.D.

DR. William Bates was born in Philadelphia on April 11, 1889. He received his B.S. degree from the University of Pennsylvania in 1912 and was awarded his medical degree from the same institution in 1915. Dr. Bates interned at the Hospital of the University of Pennsylvania. He served his country in World War 1 in Base Hospital Unit No. 20 from 1917 to 1919. From the rank of Major he rose to the rank of Lieutenant Colonel. The University of Pennsylvania appointed him Professor of Surgery in 1935 and Chairman of the Graduate School of Surgery in 1946.

Dr. Bates was happiest when he was teaching and helping his residents and students at the University of Pennsylvania Graduate School and on the staffs of the hospitals with which he was associated. These included the Graduate Hospital, Presbyterian Hospital, Medical Chirurgical, Howard, Babies, American Stomach, and Wills Eye. He had a great talent for organizing. He spent many hours daily to improve the courses and the curriculum for the Graduate School. He wrote many papers covering a broad scientific spectrum but he had a special interest in the relief of pain and its differential diagnosis. He was given the Strittmatter Award by the Philadelphia County Medical Society for the year 1953. Later he continued his teaching as Director of Education and Research at the Harrisburg Polyclinic Hospital in 1957 until his death.

* Read before The College of Physicians of Philadelphia, 9 October 1968. Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Dr. Bates was a very active member of many societies. He served as President for each of the following organizations: Aesculapian Club, Medical Club of Philadelphia, Physicians Motor Club, Philadelphia County Medical Society and the Pennsylvania State Medical Society. He served as a trustee for the U.S. Chapter of the World Medical Organization. Dr. Bates was active in the American Medical Association in the House of Delegates. He was a member of The College of Physicians of Philadelphia and of the Academy of Surgery of this city.

Dr. Bates was a member of the Union League of Philadelphia. He was a trustee of the First Presbyterian Church of Philadephia. He was a 32nd Degree Mason.

His pace was formidable. Despite the demands of a surgical practice as Chief of Surgery in no less than two hospitals simultaneously, he still found time to aid a young aspiring surgeon or student. He radiated kindness and humor. Hosts of Philadelphians loved him as a friend. He was widely sought to act as toastmaster with his ready fund of stories. Who, having heard, can forget his version of the Biblical David and Goliath?

Dr. Bates and Marie Bergstresser of Harrisburg were married in 1919. They shared a devoted relationship until her death in 1955. They are survived by a son William Bates, Jr., a vice president of the Philadelphia National Bank, and a daughter, Mrs. Robert W. Moore, residing in Easton, Pennsylvania. Five grandchildren are living and remembering him.

William Bates died quietly at a friend's home in Harrisburg, on February 22, 1967.

His family, friends, medical colleagues and patients have been spiritually and materially enriched by his life. The memory of this man remains warm and glowing despite the passing of time. This happy after-image is a living tribute to one who sincerely dedicated his life to serving his fellow man.

Memoir of Martin W. Clement 1881–1966*

By JOHN KAPP CLARK, M.D.

MARTIN W. CLEMENT, Honorary Associate of The College of Physicians, a descendant of prominent Colonial ancestors, was born in Sunbury, Pennsylvania, on December 5, 1881. In 1901, he obtained his B.S. degree from Trinity College in Hartford, where he had been a member of St. Anthony Hall and a member of the varsity football and basketball squads. He went to work almost immediately with the Pennsylvania Railroad, where he was rapidly promoted to positions of increasing responsibility from his initial job as an eleven-dollar-a-week rodman. He was appointed Vice President in charge of operations in 1926, elected to the Board of Directors in 1929, and became President in 1935. At this time his predecessor, the late General William W. Atterbury, described him as the ablest railroad executive in the country. Under Mr. Clement's leadership, the railroad completed the electrification of its eastern lines, started by his predecessor during the depression years, the largest improvement program in the road's history. Also constructed during his presidency was the main Pennsylvania Station at 30th and Market Streets in Philadelphia. It was under his leadership that the railroad met the tremendous transportation challenge of World War II, running 29,670 extra trains with 400,00 cars to transport almost one and a half trillion tons of freight and 18 million servicemen, exclusive of furloughs. He became a trusted consultant of General George C. Marshall and many other high government officials.

During his career, he maintained an active interest in his alma mater and is credited as being creator of the modern Trinity College. Mr. Clement was extremely interested in young men and was responsible for recruitment of many Trinity students who were both athletes and good scholars. He felt strongly that the education they were to receive should train them to fulfill their responsibilities as citizens of the community. On one occasion he said, "Some men are only intelligent and are of no use at all. Unless a teacher, a doctor, a scientist, a lawyer, a minister or a businessman has in addition to intelligence good judgment, common sense, integrity and good physical stamina, he cannot excel in his profession or as a citizen." On numerous occasions he expressed his strong feeling that the qualifications of an individual most likely to result in success were a willingness to accept individual responsibility and a sense of self-discipline. His own life represented one of the best examples of the results of such personal characteristics.

Mr. Clement was greatly interested in medical affairs being, among other things, one of the Board of Managers of the Hospital of the University of Pennsylvania. The College of Physicians of Philadelphia also became one of his major interests. He respected its rich traditions and service to medicine and determined to do what he could to insure its continued viability and vigor. His influence with several charitable foundations led to the donation of about half the funds needed for the construction in the early 1950's of the new wing to the College building.

He was director of numerous corporations and a member of many clubs and organizations including the Society of the War of

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

1812, the Baronial Order of the Magna Carta, the Colonial Society of Pennsylvania, the Society of Colonial Wars and the Sons of the Revolution. He was also a member of the Philadelphia Club, the Union League, the Merion Cricket Club, the St. Anthony Club, the Rabbit and the Gulph Mills Golf Club. In personal life his hobby was gardening.

At 3 o'clock on the afternoon of September 1, 1966, every train of the Pennsylvania Railroad came to a halt for one minute while 59,000 employees stood silent. The moment marked the beginning of the hour of his funeral service in the Church of the Redeemer in Bryn Mawr, where he had been a member for many years and at one time served on the vestry. Martin Clement is survived by two sons, Harrison H., a Philadelphia attorney, and James H., of Kingsville, Texas; a daughter, Miss Alice W. Clement, of West Berlin, Germany; a brother, Colonel John K. Clement, of Harrisburg; nine grandchildren and five great-grandchildren. He will be remembered by his many friends and associates as a man who profoundly influenced their lives for the better.

Memoir of Edward Foulke Corson 1883–1967*

By HERMAN BEERMAN, M.D.

ON December 2, 1967, The College of Physicians of Philadelphia lost one of its distinguished Fellows, Edward Foulke Corson. Dr. Corson was elected to Fellowship in 1914. His life was dedicated to medicine, especially dermatology, and to his family.

Dr. Corson was born at Jefferson Barracks, Missouri, on November 29, 1883. He was the son of Mary Ada Carter Corson, one of the Carters of Virginia, and Major Joseph K. Corson, M.C., an Army medical officer and recipient of the Congressional Medal of Honor.

After spending his early years in various Army posts throughout the West and in Washington, D.C., he came to Plymouth Meeting, Pa., on his father's retirement. He immediately entered Germantown Academy. After completion of his studies in this venerable institution, Edward Corson entered the University of Pennsylvania. He was awarded the degree of Doctor of Medicine in 1906. He spent two years as an intern at the Episcopal Hospital. Following this, he entered practice in Cynwyd, Pa.

Because of his intense interest in dermatology, Dr. Corson became closely associated with the late Dr. Frank Crozier Knowles, also a University of Pennsylvania graduate, who was connected with various clinics in Philadelphia and subsequently became Professor of Dermatology at Jefferson Medical College (1920–1948). At Jefferson, Dr. Corson's status rose from Associate in Dermatology (1921–1925) to Clinical Professor in 1939. This latter position he held until 1947 when he was made Professor Emeritus. In 1949 he served as interim head of the department.

Dr. Corson also gave generously of his time to a number of Philadelphia hospitals: Children's Hospital, 1910–1930; Presbyterian Hospital, 1911–1921, and the Chestnut Hill Hospital, 1921–1939.

In addition to his ability as a practitioner and teacher, Edward Corson was interested in investigation and was the author of a number of papers on various aspects of dermatology, including poison ivy dermatitis, the length of hair, and especially the "cutaneous changes associated with rimless spectacles." This last mentioned study, made with Dr. Herbert A. Luscombe, the present head of the Department of Dermatology at Jefferson, was instrumental in helping to popularize the use of spectacles with rims.

Dr. Corson was in the "Founders" group, who were the first individuals to be certified by the American Board of Dermatology and Syphilology, as it was then known. He was active in many medical organizations in addition to The College of Physicians. Among them are the American Dermatological Association, the American Academy of Dermatology, and the Philadelphia Dermatological Society. He was a member of the Sigma Xi, honorary scientific group organization. He was President of the Philadelphia Dermatological Society in 1924 and 1951. During his second term, he had the distinction of presiding on the occasion of the Fiftieth Anniversary Meeting of the Philadelphia Dermatological Society. In 1911 and in 1934 Dr. Corson was Chairman of the Section on Dermatology and Syphilology of the Medical Society of the State of Pennsylvania.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

As a result of his heritage and boyhood spent in pioneer historic sites, Dr. Corson developed a profound interest in history, especially military history. This led to his hobbies, among which was the collection of British War medals, which Dr. Corson gave to the Mütter Museum and which in 1966 were presented to the Museum of Medical History of Johannesburg, South Africa.

He belonged to the Military Order of the Loyal Legion, as did his father before him. He also held membership in the Society of Indian Wars, the Welcome Society and the Union League of Philadelphia. Early in his career, Dr. Corson joined the Army Medical Corps and served in France during World War I and later in the Army of Occupation in Germany. He ultimately attained the rank of Lieutenant Colonel.

Dr. Corson was a devoted husband and father. In 1917 he married the former Esther Bisler. This union resulted in a daughter, Mrs. Edward W. Wetmore, a son, Dr. Joseph K. Corson, and seven grandchildren. Dr. Corson was extremely proud that his son became a dermatologist and Associate Professor of Dermatology at Jefferson Medical College.

Always a quiet, soft-spoken man, Dr. Corson had many admirers. His opinion, based on keen observation, was highly respected by his colleagues. His passing is a great loss to the medical world.

Memoir of John Arthur Daugherty 1902–1968*

By ALLEN W. CROWLEY, SR.

JOHN Arthur Daugherty, M.D., was born August 12, 1902, at Carlisle, Pennsylvania. His early education was in Harrisburg. He was graduated from the University of Pennsylvania in 1924 and from Jefferson Medical College in 1928. After internship and residency training at the Harrisburg Hospital, he remained there as an attending physician until his sudden death at his home on August 28, 1968.

Besides being Chief of Staff of the Harrisburg Hospital just prior to his death, he was also a member of many state and national professional organizations, including the American Diabetic Association, American Heart Association, and the American College of Physicians. He was a delegate to the Pennsylvania Medical Society. He became a member of The College of Physicians of Philadelphia in 1955.

He became a corporate member of the Medical Service Association of Pennsylvania (Blue Shield) in 1944, elected President in 1945, and became Chairman of the Board in 1966. During this time he served one term as President of the National Association of Blue Shield Plans. At the time of his death he was a Director and Chairman of the By-Laws Committee.

His greatest service to organized medicine has been in the area of prepay medical care. He was largely responsible for the steady growth of the Blue Shield Plans, both state and national. It was through his efforts that Blue Shield grew from a "paper" organization to the largest Blue Shield plan in the United States, serving all of Pennsylvania.

He was a tireless worker and a good physician. He will be missed by his many patients and friends as well as by his associates at Blue Shield.

Dr. Daugherty is survived by his wife and three sons, Richard M., Ronald M. and the Reverend Robert M., and also by a sister, Mrs. Clarence E. Ulrich, and a brother, J. Dwight Daugherty, PH.D., of Kutztown, Pennsylvania.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of John Evan Davis, Jr. 1908–1968*

By BALDWIN L. KEYES, M.D.

BORN in Ashland, Pennsylvania, on April 18, 1908, John Evan Davis, Jr., completed high school there and went on to Pennsylvania State College for his Bachelor of Science degree in 1930. He entered Jefferson Medical College and obtained his Medical Doctorate in 1933.

After an internship in the Cooper Hospital of Camden, he was appointed to the staff of the New Jersey State Hospital in Trenton, and quickly became Chief of Men's Service.

In 1941, Dr. Davis was called to active duty in the Army as a Reserve Officer and eventually became Chief of Neuropsychiatry at Stark General Hospital, in Charleston, South Carolina, where he served as Colonel until 1946.

After the War he took graduate work at Columbia University in New York, Rutgers University in New Jersey, and The Research Institute in Illinois. He then returned to Trenton State Hospital as Clinical Director.

In 1948, he was called to Washington, D. C., to the headquarters of the Veterans Administration to organize and direct their Psychiatric Out-patient Services throughout the country.

When the Eastern Pennsylvania Psychiatric Institute became a fact in 1950, Dr. Davis was promptly selected to become the Medical Director of this important institution in Philadelphia to carry on treatment, research and training programs.

During his eight years as Director of this Institution, his accomplishments were so recognized throughout the country that he received many offers for state and national opportunities, but he remained here through his interest in the work being done in Pennsylvania.

Meanwhile, among his many activities, Dr. Davis functioned as Chief of the Psychiatric Consultation Service at Philadelphia General Hospital and as President of the Philadelphia Psychiatric Society.

He served as Chairman of The Technical Review and Program Design while on the Executive Committee of the Governor's Comprehensive Mental Health/Mental Retardation Plan. He was a delegate to the White House Conference on Aging.

In 1958, Governor Leader of Pennsylvania appointed Dr. John E. Davis, Jr., Commissioner of Mental Health and Deputy Secretary of Public Welfare. Dr. Davis carried this position with such outstanding ability that Governor Lawrence, and subsequently Governor Scranton, reappointed him to the same post to continue the program he was accomplishing.

In 1963, Dr. Davis withdrew from public service and accepted a Professorship in Psychiatry at Jefferson Medical College and was appointed Associate Head of the Department.

At Jefferson, in addition to other duties, Dr. Davis took over the responsibility for the Residents Training Program, where his experience with people, and with many hospitals and with thousands of patients, came to an intensely useful focus.

To list the professional attainments and the services rendered by Dr. Davis to his state and country would fill many pages, for he was extremely active, giving talks when called upon all over the country and always helping to solve problems and to

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

modernize psychiatric services in many areas.

It is appropriate that the John E. Davis Community Mental Health Center at Jefferson has been named in his honor.

While summarizing the career of John Davis, we have not touched upon the most important factor of all, the man himself.

As a boy in Ashland, John Davis met a girl who stayed close to his heart all of his life. He married Margaret Yost while he was an intern and she a student at Temple University. Thereafter, wherever he went, she went also. Margaret Davis shared John's problems and successes and contributed immeasurably to his accomplishments.

Their lovely daughter, Gwenn, with degrees from Wellesley, Oxford and Michigan, and now a professor at Bryn Mawr College, has always been a joy, a sustaining factor and stimulus throughout the happy, successful life that these people have enjoyed together.

John was a loveable, cheerful fellow; loyal to his Welsh ancestry; proud of his family; enthusiastic about his work—whatever it happened to be; kindly and considerate; and never too hurried to listen to those in trouble and to help them solve their problems.

Always a gentleman, a physician and a true humanitarian. When he slept away from us on May 2nd, 1968, we lost one of our most valuable people.

Now and then, as we walk through life, we are joined by a warm friend who strolls along with us and makes our way happier by his presence and richer for the knowing of him....

... Such a man was John Evan Davis, Jr.

Memoir of Samuel Creadick Rhoads 1900–1968*

By WARREN S. REESE, M.D.

DR. Samuel Creadick Rhoads died in Doctors Hospital, Coral Gables, Florida, on April 10, 1968, after a long illness. He was born in Philadelphia, Pa., on September 1, 1900, to John Neely Rhoads and Anna Driggs Day Rhoads, both of whom were members of old Colonial families.

Dr. Rhoads displayed his hardy Colonial background and *"Amor Patriae"* when during World War I he enlisted in the Army as a private though still in his teens.

Following discharge from the Army in 1919, he entered Temple University where he completed pre-medical training and received his M.D. in 1926. He interned at the Montgomery Hospital, Norristown, Pa., and then specialized in ophthalmology. On May 28, 1928, he married Dr. Rebecca McFarlane, a graduate of Woman's Medical College.

He was made Assistant Surgeon at the Wills Eye Hospital in 1927 and in 1930 became Ophthalmologist to the Philadelphia General Hospital. In 1934 he was appointed Instructor in Ophthalmology at the Woman's Medical College in Philadelphia, continuing on the faculty until 1942, becoming Associate Professor, Acting Professor and finally Acting Head of the Department of Ophthalmology.

In 1942, his Colonial ancestry again manifested itself when he discontinued private practice, resigned his positions at various hospitals and clinics to enter the United States Air Force, serving as Captain in the Medical Corps throughout World War II and being commended for his performance.

After World War II, Dr. Rhoads resumed the practice of ophthalmology and his association with various hospitals and clinics, serving as Visiting Ophthalmologist to the Philadelphia General Hospital, Consulting Ophthalmologist at Underwood Hospital, Woodbury, New Jersey, Wills Eye Hospital and the Woman's Medical College Hospital.

He was a Diplomate of the American Board of Ophthalmology, a member of the American Medical Association, the Wills Eye Hospital Society, the Gloucester County Medical Society of New Jersey and the Air Force Association.

Dr. Rhoads was active in the Baronial Order of Magna Charta, and was serving as a Surety at the time of his death. He also held membership in the Sons of the Revolution, the Huguenot Society, Military Order of the Crusaders, the LuLu Shrine, the Union League and the Society of American Magicians.

His hobbies were golf, cabinet wood work, and spinning and electroplating of copper.

Dr. Rhoads is survived by his widow and a son, Dr. John M. Rhoads, presently Professor of Psychiatry at Duke University, and four grandchildren.

Those of us who knew Dr. Rhoads will remember him as a delightful, retiring, but nevertheless hard and conscientious worker who for years assisted, and was much depended upon, by one of the most dexterous and ingenious Attending Surgeons at the Wills Eye Hospital, Dr. Frank C. Parker.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of Reuben Lore Sharp 1897–1968*

By THOMAS M. KAIN, JR., M.D.

DR. Reuben Lore Sharp was born in Mullica Hill, New Jersey, on August 14, 1897. He died on his farm in Mt. Holly on October 17, 1968.

He attended public schools and matriculated at Dickinson College in Carlisle, Pa. During his freshman year, his father, who was a practicing physician in Camden but who continued to reside with his family on a large operating farm in Mullica Hill, died. During this crisis, it was necessary for Dr. Sharp as the oldest son to leave college and take over the management of the farm. This was during World War I. His work on the farm gave him an automatic draft exemption. After he operated the farm for three years, arrangements were made for him to return to college, where he distinguished himself both as a student and as an athlete. Football was his special sport and he played on the varsity for three years.

Following graduation, he entered the School of Medicine at the University of Pennsylvania and then interned at the Graduate Hospital. Subsequently, he spent two years as an associate of Dr. Henry Bockus at the University of Pennsylvania prior to opening his own offices in Camden. He was promptly appointed to the Cooper Hospital Medical Staff and soon after was certified by the Board of Internal Medicine.

Immediately after Pearl Harbor, he enlisted in the Naval Medical Corps and was appointed senior medical officer of the 4th Division, U.S. Marines. He had a distinguished combat record in the South Pacific. His naval combat duty was a source of great satisfaction to him because he had a keen awareness of his duty to his country. In 1946, he was released from active duty, returning to his Camden office and Cooper Hospital.

Dr. Sharp was former President of the Camden County Medical Society and for many years was a trustee of the Medical Society of the State of New Jersey. He was former Chief of the Department of Medicine at Cooper Hospital.

Dr. Sharp is survived by his widow, the former Mary Chambers, and four children.

Dr. Sharp had a large practice, and there are few among his patients who will ever forget him. He had an innate ability to inspire confidence. He was generally sensitive to the health of others, and it was always his wont to subordinate himself to the needs of the sick people.

His professional colleagues will remember him as a distinguished internist and gastroenterologist. The public will remember him as the epitome of honesty, unbending in integrity, and always demanding of himself that he do the "right" thing as his judgment dictated.

All of us in the Camden area will miss Dr. Sharp.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of Calvin Mason Smyth, Jr. 1894–1967*

By TITO AUGUSTINE RANIERI, M.D.

CALVIN MASON SMYTH, JR., was born in Philadelphia, August 24, 1894, the son of Calvin Mason Smyth and Margretta Slaughter Smyth. He was the eldest of four children. His education was in Philadelphia, where he attended Germantown Academy, earned a B.S. from the University of Pennsylvania and was graduated in the famous Class of 1918 of the School of Medicine. Many members of that class attained professorial rank in various fields of medicine. His uncle, Henry Field Smyth, was Professor of Hygiene at the School of Medicine.

His marriage to Madeline Williams Smyth brought forth two illustrious sons: Calvin Mason Smyth, III, of the State Department of the United States, specializing in the Affairs of Latin America and Far East Relations, and Thomas Williams Smyth, Vice President of Smyth, Akins & Lerch. Both young men were wrestling champions in the Interacademic League. There are now five grandchildren in the lineage.

After service in the United States Army Medical Corps in World War I, he was an intern and surgical resident at the Hospital of the University of Pennsylvania under the Professorship of John B. Deaver. In 1920 he was appointed Instructor in Surgery at the Medical School and the same year to the original faculty of the Graduate School of Medicine as Instructor in Surgical Research. He progressed through academic levels to Professor in 1952 and Emeritus Professor in 1961. In his formative years, he was Professor of Physiology at the Philadelphia College of Pharmacy. His vast knowledge of the Polyherbalists was fascinating.

Dr. Smyth was associated with Dr. Damon B. Pfeiffer and was co-author of many surgical treatises. He was affiliated with many hospitals in the metropolitan area of Philadelphia. He served at the Methodist Hospital (1919–1950) as Chief of Surgery (1932–1950) and at the Woman's Hospital. In 1953, he became Surgeon-in-Chief of the Abington Memorial Hospital and Director of the Pfeiffer Clinic, posts from which he retired in 1963.

He was Consultant in Surgery to the United States Naval Hospital, Philadelphia, and a Consultant to the Surgeon General of the Army. He made a survey of the medical facilities of the United States Army in Europe in 1953 and in the Asian Theater of Operations in 1956. He was retired as Brigadier General in the United States Army Medical Corps Reserve.

He was a member of the Philadelphia County Medical Society, the Medical Society of the State of Pennsylvania, the American Medical Association; a Fellow of the American College of Surgeons, American Surgical Association, Philadelphia Academy of Surgery, The College of Physicians of Philadelphia, Société Internationale de Chirurgie (Brussels), American Association of University Professors, Eastern Surgical Association and Society for Surgeons of the Alimentary Tract. He was a member of the Society of the Sigma Xi, Phi Kappa Psi Fraternity (College) and Phi Alpha Sigma (Medical), Society of the Friendly Sons of St. Patrick and Union League of Philadelphia.

Dr. Smyth edited many books on surgery, one a revision of Bickham's *Operative Sur-*

* Read before The College of Physicians of Philadelphia, 9 October 1968. Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

gery, Vol. VIII, 1932, another *Surgical Treatment,* and three volumes by Warbasse, 1937. Also, he was the author of numerous chapters and many articles in surgical literature. This work and duties led him directly to his second consort, Marguerite Schlegel. He affectionately preferred to call her Martha who, like the Biblical figure, performed her cheerful chores. This charming lady prepared the voluminous manuscripts, and she was his constant companion at meetings, on his tours of duty, lecturing and examining.

When the American Board of Surgery was formed in 1937, he was a founder; he was active in the organization and preparation of the first examinations. He was closely associated with Doctor J. Stewart Rodman in the Secretarial Office and became Vice Chairman 1951–53. This is important as a part of the history of surgery in the United States. The many Diplomates of the Board who have gone through the rigorous examinations for certification will recall their state of anxiety. Despite the fact that he examined more young surgeon candidates than any other member of the Board, his great tact and understanding in dealing with their problems brought admiration for his unflinching honesty and fairness. His efforts were a labor of love and he was loyal to the ideals and objectives of improving surgical training in the United States.

As a Fellow of the Academy of Surgery, he was faithful to all its meetings. He was Secretary for many years and progressed to every office, culminating as its President from 1950–52. He stimulated debate and controversial dialogue. His discussions were eloquent, well-worded and concise, favoring constructive criticism. He gave the Annual Oration on December 4, 1944, entitled, "Graduate Surgical Training in America."

As a member of the Original Faculty of the Graduate School, he became the nonpareil in the transition of teaching to graduate students in contrast to the undergraduates. The two-hour round table conferences were well-organized with teacher-student participation in all phases of the profession. He emphasized the importance of adhering to routine in the care of patients regardless of their social status. While associated with Dr. Joshua E. Sweet in the Research Department, he designed the operating table with a center trough for experimental surgery on animals.

Following the attack on Pearl Harbor, the Surgeon General sent hundreds of neosurgeons to the Graduate School. He and his associates participated without honorarium in teaching the six-week intensive course.

The early years of the twentieth century saw a great change in undergraduate education, whereas between the two World Wars growing improvements in graduate medical education, specialty training and branch specialties were evolved. It was during this era that Dr. Smyth and many senior members of the Academy were architects in molding new practice in the decorum of the profession and a more cordial relationship in sharing medical and surgical management. This was the period in which emphasis was placed in making the "patient safe for surgery." Despite his efforts to insure that the Science and the Art of Surgery adjust to the changes in social relationship, he kept the common touch. It was a pleasure to watch a skillful and merciful surgeon examine and gently palpate the abdomen of an acutely ill patient.

In 1935, he was the medical consultant for the Compensation Labor Laws of the State of Pennsylvania which brought uniformity in compliance with disability in line of duty for the laborer. In 1955, Governor George Leader appointed Dr. Smyth as the first M.D. to the State Board of Examiners of Osteopathic Physicians. He accepted the assignment not for disparagement but to shed enlightenment in this competitive profession. He organized the *modus operandi* of the examinations and raised the standards of the future practicing physicians.

In his youth, he was associated on the

stage with Edward Everett Horton and William Harrigan with whom he developed lifelong friendships. In college he was coxswain of the varsity crew and an accomplished bass-violinist. He proudly displayed his active Local 77 Musicians Union Card. He was a masterful raconteur which endeared him to many friends. He was the stellar attraction at the Annual Meeting between the New York and Philadelphia Surgeons. He had the highest faculty of the intellect and the finest medium for communication.

His death on June 18, 1967, was due to the "physician's malady," an acute myocardial infarction and its sequelae.

He led a full life as he was devoted to his work and his scientific accomplishments. Yet he enjoyed the pleasures of life: good company, music and conversation. He was a great teacher, an investigator of merit and a clinical surgeon with skill, sympathy, and warmth toward patients.

The dead live in the memory of the living. Dr. Smyth as a believer of body and soul left us the heritage: Live and be prepared to die tomorrow; work and learn as to live forever.

Transactions of the Philadelphia Neurological Society

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PROGRAMS 1968–69*

OCTOBER 4, 1968

Dedicated to the Memory of
G. Milton Shy, M.D.

Memorial to G. Milton Shy, M.D.
GUNTER HAASE, M.D.

DISEASES OF MUSCLE

Degeneration and Regeneration of Muscle. HENRY SCHUTTA, M.D.

Type I Muscle Fiber Hypotrophy with Central Nuclei. W. KING ENGEL, M.D. and D. C. DE VIVO

Glycogen Storage Diseases of Muscles. LEWIS P. ROWLAND, M.D.

* * *

Memorial to G. Milton Shy, M.D.
GUNTER HAASE, M.D.

Dr. Moore, members and guests of the Society: Mrs. Shy has asked me to convey her thanks to the Philadelphia Neurological Society for dedicating this meeting to the memory of her husband, Dr. G. Milton Shy. She and her children, Michael and Kathy, have further asked me to bring you their warm wishes for a successful meeting.

Milton Shy was a scholarly man. His contributions, as an investigator, are well known. In the short span of years he was allotted in his profession, he gained respect in this country and abroad. The sequence of his appointments is testimony to his abilities, as the affection of his friends is testimony to his character.

He was a dedicated and ambitious man. Responsibilities came to Milton early. At 32, fresh from his training in London and Montreal, he became Chief of Neurology at the University of Colorado. There was the beginning of his great attractiveness as a teacher. His lectures, on Thursday evenings, were among the best-attended teaching activities of the school. Two years later, at 34, Milton accepted the awesome position of Clinical Director of the National Institute of Neurological Diseases and Blindness. If he felt diffidence, he did not show it. He did not see mountains as obstacles but as peaks to be conquered. His enthusiasm and his dedication were covenants with success.

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Reprints: Julina Gylfe, M.D., Editor, 1315 DeKalb Street, Norristown, Pennsylvania 19401.

He was a complex man. His loyalties were strong, and equally strong were the loyalties his associates and students offered him. His wish to bring out the best in his pupils could, at times, be costly to their sensitivity. Yet, I think he was happiest at his rounds and teaching conferences. Here, he could bring to bear not only his rich clinical knowledge, but also the understanding he had gained of the basic sciences, and if he became convinced that an area of the basic sciences was relevant to his labors, he set out to master it, and master it he would.

His intensity of purpose was softened by his warmth, his friendship, and by a streak of mischief. Here was a man whose office walls were covered by the foreboding pictures of great men, great places, diagrams of complex metabolic pathways—and by a well used dartboard. As was said of Anthony, "His delights were dolphin-like, they showed his back above the element they lived in"—so we remember George Milton Shy.

Degeneration and Regeneration of Muscle

Henry Schutta, M.D.

Biopsies from patients with paroxysmal idiopathic myoglobinuria revealed transverse necrosis of myofibers, where there is destruction of the plasma membrane and subsequent invasion of the damaged fiber by phagocytes. Central necrosis, where damage is confined to central areas of the myofiber and does not reach the plasma membrane, gives rise to necrotic vacuoles which are similar to those found in other vacuolar myopathies. In the past, these vacuoles have been interpreted as dilatations of the sarcoplasmic reticulum. This interpretation appears to be incorrect since the membrane bounding the vacuoles is related to the T-system, and progression from central necrosis to vacuoles can be discerned in the biopsies. In acute states, bulbous dilatations of the T-system give rise to smaller vacuoles, and these are thought to reflct electrolyte disturbance in partially damaged muscle. Evidence of regeneration was present in myofibers with transverse necrosis, where regenerant cell processes were present at the periphery of the myofiber. It is not certain whether they arise from normal parts of the damaged myofiber or whether they represent activated satellite cells. These findings were compared with degenerative changes and vacuolar abnormalities in a case of hypokalemic periodic paralysis.

Type I Muscle Fiber Hypotrophy with Central Nuclei

W. King Engel, M.D.
D. C. De Vivo

A 12-year-old boy with congenital muscle weakness was found by histochemistry of his muscle biopsy to have type I muscle fiber hypotrophy with central nuclei. Details of his clinical findings, as well as histochemical and electro-microscopic studies of his muscle biopsy, were presented. A comparison was made with experimental attempts to reproduce this condition. The pathogenesis was speculated upon in the light of current information on the significance of histochemical types of muscle fibers.

Glycogen Storage Diseases of Muscle

Lewis P. Rowland, M.D.

The glycogen storage diseases are rare but important beyond their numbers, for they are the first inherited diseases of muscle in which the biochemical abnormality is known. Because the symptoms differ depending upon which enzyme is deficient, these diseases provide information about the functional importance of different steps of the metabolic pathway. Important problems remain, however. The precise relationship between the biochemical abnormality and symptoms has been difficult to elucidate. Atypical syndromes associated with specific enzymatic defects have been found, and in some cases more than one enzyme seems to be affected. This review attempted to elucidate the significances of these problems.

November 1, 1968

CLINICAL CASE REPORTS

Cerebral Aneurysm Following Spontaneous Carotid Occlusion. Marvin E. Jaffe, M.D. and Lawrence C. McHenry, Jr., M.D.

Respiratory Arrest from Seizure Discharges in the Limbic System. Dewey A. Nelson M.D. and Charles D. Ray, M.D.

Prevention of Post-herpetic Neuralgia. Frank A. Elliott, M.D.

Management of Brain Swelling Through Con-

tinuous Recording of Intracranial Pressure. T. W. Langfitt, M.D., N. F. Kassell, M.D. and S. S. Lyness, M.D.

Cerebral Aneurysm Following Spontaneous Carotid Occlusion

Marvin E. Jaffe, M.D.
Lawrence C. McHenry, Jr., M.D.

Cerebral aneurysms have been noted to enlarge, and new cerebral aneurysms to occur, subsequent to carotid artery ligation as a treatment for aneurysms. However, symptomatic cerebral aneurysm formation is not a reported complication of spontaneous or atherosclerotic carotid artery occlusive disease, nor has it been reported as a significant accompaniment of advanced cerebrovascular disease. This is not due to failure to search for them, since our group and many others as well have done large numbers of angiograms in individuals with carotid artery occlusive disease.

A case is reported of a 79-year-old Negro female who developed a symptomatic right internal artery aneurysm 10 years after suffering a stroke due to a left internal carotid artery occlusion. She subsequently died of an acute subarachnoid hemorrhage.

We presented this case as both the first reported symptomatic carotid artery aneurysm after spontaneous carotid artery occlusion, and also for the value it has in pointing out the likelihood that developmental vascular anomalies rather than acquired degenerative changes are the substrate upon which saccular aneurysms occur. Hydraulic and hemodynamic factors alone are insufficient to cause aneurysms.

Respiratory Arrest from Seizure Discharges in the Limbic System

Dewey A. Nelson, M.D. and
Charles D. Ray, M.D.

Since 1899, when Hughlings Jackson first described respiratory arrest as part of an uncinate fit, a large body of experimental evidence has shown that respiratory arrest occurs when a number of structures in the cerebral hemisphere are stimulated. The respiratory arrest is usually in expiration and occurs when the following structures are stimulated: posterior lateral frontal cortex, inferior medial temporal cortex, anterior insular cortex, anterior cingulate gyrus, amygdala, uncus and fornix. The longest reported respiratory arrest from cortical stimulation, to date, has been for 56 seconds.

A depth probe stimulation study was performed on a 13-year-old girl, who from the age of seven had uncontrolled generalized and psychomotor seizures. One depth stimulation study revealed rhythmic 20 to 40 second after-discharges when a narrow 6 mm. zone near the center of the left amygdaloid nucleus was stimulated. Arrest occurred in inspiration when the stimuli were applied at the height of inspiration; similarly, stimulation at the height of expiration produced expiratory arrest.

A second patient, a 50-year-old physician, developed generalized and temporal lobe seizures at the age of 20. At the age of 12, he suffered an electrical shock injury, wherein the current entered the body through the right thumb and exited through the left temporal region. The patient has an EEG spike focus in the left mid-temporal region. The patient was found cyanotic and apneic in bed at home, after he had gotten into bed because of feelings of extreme fatigue. Several interesting EEG tracings were made during these periods of apnea. One of these revealed a low voltage tracing with spindle-like forms of 6 to 14 per second frequency. Another revealed a slow, disorganized tracing with sharp wave discharges emanating from a wide region over the left frontotemporal region. Because of a history of temporal lobe injury and of psychomotor seizures, and because these episodes of arrest cannot be ascribed to a prolonged convulsion with muscular exhaustion, or to the ingestion of some drug, we have concluded that these respiratory arrests represent some type of seizure phenomenon. There are several reservations about this hypothesis: 1., Experimental stimulation of limbic structures has produced arrest for only a minute or less whereas this patient has been in arrest up to 30 hours; 2., Delayed brain stem lesions from electrical shock injury are known to occur; 3., There are no clinical reports of similar type to confirm these observations.

Prevention of Post-herpetic Neuralgia

Frank A. Elliott, M.D.

Post-herpetic neuralgia has been reported to occur in 30% of patients over 40 and in 50% of patients over 60. By contrast, post-herpetic

neuralgia did not occur at all in 64 personal cases of shingles treated by the administration of high doses of prednisone within the first seven days of the appearance of the rash. The average age of the group was 64 years. The facial paralysis of geniculate herpes recovered in two to three weeks. Controls fared less well. The treatment, its rationale, and its complications were discussed.

Management of Brain Swelling through Continuous Recording of Intracranial Pressure

T. W. Langfitt, M.D., N. F. Kassell, M.D. and S. S. Lyness, M.D.

Cerebral swelling is a common cause of death following head injury, cerebrovascular accidents, and intracranial surgery. The primary aim of treatment (hypertonic solutions, hypothermia, steroids, hyperventilation) is to reduce brain bulk. The only reliable criterion for estimating the degree of brain swelling and the result of therapy is intracranial pressure. We have recorded intracranial pressure continuously following craniotomy in 85 patients. A catheter was inserted into the subdural space at the completion of the operation and attached to a transducer and polygraph in the Intensive Care Unit. The earliest sign of cerebral swelling is a gradual rise in intracranial pressure and, of equal importance, fluctuations in intracranial tension from normal to values as high as 60 to 80 mm. Hg. These pressure waves are characteristic of brain swelling and intracranial hypertension, irrespective of the cause. Clinical signs at the peak of the pressure wave include headache, vomiting, and increased neurological deficit, but frequently there is no change in the patient's clinical status. Between pressure waves, intracranial tension remains elevated, and, ultimately, a terminal pressure wave occurs. Intracranial pressure rises to the level of the blood pressure and cerebral blood flow is abolished. The terminal pressure wave is a common cause of rapid deterioration and death in patients with a space-occupying lesion or brain swelling. Miniature, solid-state transducers are now available for measurement of intracranial pressure. A small transducer can be inserted into the intracranial space through a twist drill hole in the skull, in order to monitor patients with severe head injury and strokes, and the procedure can be carried out in the Emergency Ward.

December 13, 1968

THE BORDERLAND OF NEUROLOGY AND PSYCHIATRY

Electrophysiologic Studies of Mental Disorder. Charles Shagass, M.D.

Neuropharmacology of Hallucinogenic Drugs. George B. Koelle, M.D.

Some Thoughts on the Limbic System. Joel Elkes, M.D.

Electrophysiological Studies of Mental Disorder

Charles Shagass, M.D.

The idea that deviant neurophysiology must meditate deviant behavior is generally accepted, but psychiatrically relevant neurophysiological indicators have been hard to define. EEG findings in "functional" mental disorders have been disappointing, although cautious optimism is being generated by approaches applying computer methods. The technique of recording sensory evoked responses by "averaging" has also yielded encouraging results in recent years.

This presentation reviewed some of the main findings obtained in our research program which, for nearly a decade, has attempted to establish psychiatric correlates of evoked response characteristics. As data have accumulated, it has become clear that many factors, such as age, sex, drugs, and state of alertness, can influence evoked responses. Inconsistent results are probably attributable to imperfect control over such factors. One finding has been consistent in our own studies and those of others: recovery function, as measured by applying paired "conditioning" and "test" stimuli, is reduced in psychiatric patients. Furthermore, in current studies, we are finding that the orderly relationship between "conditioning" stimulus intensity and "test" responsiveness present in normals is virtually absent in most schizophrenic patients. This suggests disordered balance between "inhibitory" and "facilitatory" processes in the patients.

Another new area of considerable interest concerns EEG-evoked response relationships and their behavioral correlates. We have re-

cently found that superior perceptual performance is associated with greater EEG-evoked response amplitude concordance. Psychopathological correlates of such concordance variability are being investigated.

Neuropharmacology of Hallucinogenic Drugs

GEORGE B. KOELLE, M.D.

Hallucinogenic drugs probably act primarily in sites of the subcortical limbic system to produce their characteristic effects of hallucinations, diffuse anxiety, and sympathetic hypertonia. It is likely that they do so by modifying synaptic transmission through adrenergic or serotoninergic pathways at these levels. Of primary interest is the possible relationship of the actions of the hallucinogenic agents to biochemical abnormalities in the etiology of naturally occurring psychoses.

FEBRUARY 7, 1969

NEURORADIOLOGY AND BLUSHING

Tumor and Blushes. MARK M. MISHKIN, M.D.

Inflammatory Diseases and Blushes. NORMAN LEEDS, M.D.

Occlusive Disease and Blushes. HERBERT GOLDBERG, M.D.

Tumor and Blushes

MARK M. MISHKIN, M.D.

Serial angiography in at least the AP and lateral projections is necessary in order to evaluate and differentiate various types of tumors. With good quality angiography, correct prediction of histologic types of vascular tumors should be achievable as often as 75% of the time. Differentiation of benign from malignant lesions is achievable more often than that.

Vascular lesions fall into four groups: 1., meningioma; 2., astrocytoma grades III or IV; 3., metastasis, and 4., other. The general characteristics of a vascular tumor are divided into two major categories: a., morphologic and b., dynamic. Under morphology we find 1., enlarged afferent arteries; 2., neovasculature; 3., "blush" or "stain"; 4., enlarged and/or early filling veins. Under the dynamic characteristics are 1., faster circulation through the tumor—usually malignant; 2., normal circulation—usually benign.

Meningiomas are usually highly vascular, having a double blood supply from the internal and external carotid system, which is pathognomonic. Characteristically the vessels are seen to radiate from a bony point.

In those tumors demonstrating rapid flow of blood into the venous circulation we can make a diagnosis of malignancy, either glioma or metastasis. These tumors more often drain into the deep veins. Gliomas need not be space-taking even when they are highly vascular. Occasionally the grade II astrocytoma can be diagnosed because of its entrapment of vessels supplying it, these vessels sometimes being enlarged even though no tumor stain or early filling vein is present.

The metastases also demonstrate rapid flow. The tumor stain starts a little later and fades more quickly. Obviously the presence of multiple lesions makes this diagnosis more definite. Unfortunately, it is not unusual for metastasis to be indistinguishable from gliomas.

In the posterior fossa, two highly vascular and usually benign lesions are present. These are the cerebellar hemangioblastoma and the chemodectoma. Both of these show very rapid venous shunting as well as an intense tumor stain. The hemangioblastoma is not infrequently cystic with a mural nodule representing the highly vascular component.

Differentiation from arteriovenous malformations can at times be difficult since the dynamics are similar to that of a malignant tumor. However, the arteriovenous malformation lacks the disorganized neovasculature of the glioma and is often non-space-taking since it is frequently accompanied by focal atrophy secondary to the shunting and resultant "steal."

Inflammatory Diseases and Blushes

NORMAN LEEDS, M.D.

In a review of 27 patients with inflammatory diseases of the brain, hypervascular patterns were observed in 12. There are three different causes for the hypervascular patterns. In the first group, the blush is a result of loss of autoregulation with anoxic vasodilatation of arteries at the margins of the lesion and shunting of blood with early filling of the veins. The veins filled are the normal veins in the area. This

type of abnormal vascular pattern is observed at the periphery of the lesion and occurred in five patients.

The second abnormal pattern is a blush seen about the margin of the lesion in four patients and represents neovascularization within the capsule about an abscess. The blush is non-uniform, homogenous, circumscribes the lesion, and is of long duration persisting from the late arterial through the venous phase. This should be distinguished from a pseudocapsule which may be seen in abscesses and actually represents compression of brain tissue by the mass. This type of blush is not uniform, less homogenous, and of short duration.

The third type of abnormal vascular pattern is that observed secondary to a reactive hyperemia that develops locally in the brain as a response to an inflammatory lesion. In two patients, there was vasodilation of large arteries supplying the area of involvement and in one of these patients there was a transient blush with prominent draining veins. In the other patient, there was premature filling of subcortical temporal veins. In the third patient, vasodilatation of arterioles as well as capillary vasodilatation was observed. This small vessel dilatation accounted for the vascular blush observed. These three patients all had varieties of encephalitis.

Occlusive Disease and Blushes

HERBERT GOLDBERG, M.D.

The hyperemic blush observed in many patients following a cerebral infarction is related to a loss of normal autoregulation in and around the damaged area of the brain. With autoregulation abolished in these regions, the normal vasoconstrictor tone is lost in the arteriolar bed. This results in a reduction in the local vascular resistance and generally a higher flow through this vascular bed, as long as the local arteriolar pressure head is not reduced due to occlusion of the supplying artery. Angiographically, this pathophysiological alteration in local cerebral hemodynamics is evidenced by a greater volume of contrast passing rapidly through the brain tissue into early-appearing normal regional veins. The hyperemia is located throughout the infarcted area when there is adequate primary or collateral circulation present. It is located on the periphery if the infarcted tissue remains ischemic at the time of angiography.

The angiographic characteristics of the blush consist of 1., its localization primarily within the cortex, 2., a punctate arteriolar dilatation, 3., a uniform capillary cortical stain, 4., a rapid disappearance of the blush with early filling of normal regional veins. The blush may be localized to a single convolution or may be more extensive, covering the entire vascular distribution of a major cerebral branch. Very frequently, no occlusions are demonstrated which may be due to either a previous embolic thrombus, which has dissolved, or secondary to an hypoxic episode from a period of relative or absolute hypotension in a hypertensive patient with cardiovascular disease.

The blush generally does not persist for more than 2 to 3 weeks following the infarction because autoregulation returns in the damaged areas. Follow-up angiography after two weeks will reveal either complete clearing or a marked resolution in the hyperemic reaction when it is secondary to loss of autoregulation following cerebral infarction.

MARCH 7, 1969

THE INFLUENCE OF NOXIOUS AGENTS ON THE DEVELOPING NERVOUS SYSTEM

The Influence of Malnutrition on the Developing Nervous System. DONALD J. FISHMAN, M.D.

Studies on Genetic Acid Mucopolysaccharidosis, Type 3. M. HAROLD FOGELSON, M.D.

Calcium Exchange between Blood, Brain, and CSF. LEONARD J. GRAZIANI, M.D.

Metabolic Abnormalities in Subacute Necrotizing Encephalomyelitis. WARREN GROVER, M.D.

Studies on Genetic Acid Mucopolysaccharidosis, Type 3

M. HAROLD FOGELSON, M.D.

The Genetic Mucopolysaccharidoses (genetic MPS) are inherited disorders of connective tissues associated with increased tissue accumulation and urinary excretion of acid glycos-

aminolycan (GAG—acid mucopolysaccharides). Currently, there are six types separated by clinical, genetic, radiographic and biochemical evidence. All disorders are inherited as autosomal recessive traits except MPS II, which is inherited as an X-linked recessive trait.

MPS I or Hunter's Disease is the prototype disorder whose features are seen in a variable extent in the other disorders. MPS II or Hunter's Disease differs from MPS I in having no corneal opacities and less rapid deterioration of mental and physical abilities.

Type III MPS or Sanfilippo Disease was described in 1963 for a group of children whose gross features are reminiscent of the other types but whose somatic changes are minor in comparison to the severe degree of mental retardation. These children have slightly retarded development early but learning plateaus by 3 years. They almost never achieve speech; those milestones that are gained are subsequently lost. Their behavior deteriorates and the children become withdrawn, stubborn and excessively sleepy.

Physical examination demonstrates little: corneas are clear; joint restriction is minimal; hepatosplenomegaly is not consistently found; no cardiac problems have been noted; head is scaphocephalic and large with frontal bossing in late stages; neurological examination elicits increased tendon reflexes and abnormalities of movement—suggesting athetosis. Seizures are frequent. Death occurs by the end of the second decade due to increased neurological deterioration, inanition and pneumonia.

Urinary findings have revealed increased quantities of glycosaminolycan—specifically heparan sulfate with lesser quantities of Dermatan Sulfate (Chondroitin sulfate B). As with other genetic MPS, bone changes are usually pronounced in those disorders excreting Dermatan sulfate, while mental retardation occurs in those disorders excreting heparan sulfate as a major GAG.

We recently have been attempting to modify urinary excretion of GAG in Sanfilippo patients by salicylates. Among its functions, salicylates interfere with PAPS sulfation and have been shown to retard organization of connective tissue in its final form. In three patients who were discovered at a late stage, that is, after two years when changes had already proceeded at an inexorable rate, we administered salicylates in doses of 100 mgm./kg.—a similar range to that used on rheumatic fever patients. Our results suggest that there occurs a twofold increase of urinary acidic GAG excretion on short term administration of 7 days. This increased excretion was not on the basis of renal creatinine clearance, which remained constant.

Calcium Exchange between Blood, Brain, and CSF

Leonard J. Graziani, m.d.

Toxic effects of altered serum calcium concentrations on the central nervous system have been noted in infants, children and adults. Animal experiments have demonstrated profound behavioral effects with changes in the CSF concentration of calcium, related to altered electrical excitability of nervous tissue. In addition, the calcium level in the CSF tends to remain within a limited range, independent of the level in the serum, and the normal CSF to serum ratio of approximately 0.5 is not maintained in man or dog with hypo- or hypercalcemia.

In acute experiments, calcium exchange was measured in anesthetized cats during steady-state ventriculocisternal perfusions. When Ca_{45} was added to the perfusate, the efflux coefficient was independent of CSF Ca concentration, indicating passive diffusion. About one-third of this isotope was recovered in brain tissue and was localized to areas immediately adjacent to the CSF pathway. When Ca_{45} was given intravenously during ventriculocisternal perfusion, a component of the influx coefficient from blood was reciprocally related to serum calcium concentration consistent with an active or carrier-mediated process; another smaller component of the coefficient was constant, consistent with passive diffusion.

When oubain was added to the perfusate, both CSF production and Ca influx was reduced, suggesting an influx component related to CSF formation. However, when Diamox was added to the perfusate, a component of Ca influx continued independent of the reduced CSF formation. About one-third of the Ca entering CSF was from adjacent brain. In hypoparathyroid animals influx of Ca_{45} from blood to CSF was reduced to about one-half that of normal animals due to a decreased active component, al-

though Ca influx from brain to CSF was unchanged. Ca_{45} uptake by brain in cats and immature and adult rats indicates that the rate of calcium exchange between blood and brain is much less than between blood and CSF and is related to maturity, animal species, region of the brain and blood calcium concentration.

Metabolic Abnormalities in Subacute Necrotizing Encephalomyelitis

Warren Grover, M.D.

The clinical and biochemical abnormalities in a patient with subacute necrotizing encephalomyelitis were serially evaluated after a sibling expired with the same disorder. The appearance of fundal abnormalities as well as lactic acidosis were noted before the development of significant clinical involvement. In contrast to previous enzyme assays, higher levels of pyruvate, carboxylase, and phosphoenolpyruvate carboxykinase levels were found. A review of the available literature, as well as evaluation of the second patient, suggests that this syndrome may result from impairment of more than one enzyme site in glycolytic pathways.

May 9, 1969

CURRENT DEVELOPMENTS IN THE TREATMENT OF PARKINSON'S DISEASE

I. *Biochemistry of Parkinsonism.* Stanley Fahn, M.D.

II. *L-Dopa and Parkinson's Disease.*

A. *Experiences in Treatment of Parkinsonism.* Gabriel A. Schwarz, M.D. and Lewis P. Rowland, M.D.

B. *A Clinical Trial.* Edgar J. Kenyon, M.D., Richard A. Chambers, M.D. and Leonard Katz, M.D.

C. *Evaluation of 38 Treated Patients.* Jack O. Greenberg, M.D.

III. *Role of L-Dopa in the Surgical Treatment of Parkinson's Disease.* Henry T. Wycis, M.D., E. Spiegel, M.D., G. Kalett, M.D. and W. Cunningham, M.D.

Biochemistry of Parkinsonism

Stanley Fahn, M.D.

The use of L-Dopa (L-3,4-dihydroxyphenylalanine) in the treatment of Parkinson's disease is a classical example of a direct therapeutic benefit derived from the study of basic neurochemistry, rather than an empirical discovery of a new drug. The historical aspects of the scientific discoveries in this area were reviewed. Also discussed were the metabolism and function of dopamine in the basal ganglia. The relationship between degeneration of the substantia nigra and the reduction of dopamine in the neostriatum can be explained on the basis of a dopaminergic nigro-neostriatal pathway. The evidence supporting the existence of this path and the evidence that reduction of dopamine is responsible for many of the clinical features of parkinsonism were also examined.

After more than 150 years after James Parkinson's original description of this disease, we are now beginning to unravel some of its mystery. Neuropathological studies and experimental lesions in animals left out many pieces of the puzzle which the chemists and physiologists are filling in. An interesting sideline of Dopa therapy is the recognition of the role of dopamine in the production of choreiform movements. The role of Dopa, anticholinergics and phenothiazines in the treatment or causation of parkinsonism and chorea can possibly be explained on the basis of transmitter action on striatal neurons. Despite these recent advances the loss of pigment, neuronal degeneration and the presence of Lewy bodies in the substantia nigra are not yet understood.

Experiences in Treatment of Parkinsonism

Gabriel A. Schwarz, M.D. and Lewis P. Rowland, M.D.

This report was limited to results with our first 36 patients who had an "adequate" dosage of L-Dopa for more than one month. We have accepted any patient in whom the diagnosis of parkinsonism has been made. Consequently, many of our patients have been severely incapacitated and bedfast, demented, or ill with disturbances of other systems. A number of our patients have had various kinds of surgical procedures for relief of parkinsonism symptoms.

Age at onset of parkinsonism ranged from 32

to 76 years. Age at start of treatment with L-Dopa was from 38 to 80 years. Only 9 of our patients were under 55; while 14 were over 70 years of age. Twenty-five patients had the disease between 1–5 years; 15 between 5–10; 6 between 10–15 years and 4 between 15–20 years. Of our first 51 patients, 3 stopped L-Dopa. One stopped because of the development of a rash, lethargy, tachycardia, nausea, and malaise; one could not afford to continue; and one had no improvement at safe dosage.

Results of treatment with L-Dopa (36 patients): in 2, the disease progressed; in 4, no change; 2, slight improvement; 9, significant improvement; 11, marked improvement; 8, return to normal or almost normal. Four of our patients have died, all because of respiratory complications associated with dysphagia.

Five to 21 grams of L-Dopa per day have been used. In general, dosages of more than 8 grams per day induced postural hypotension and/or psychoses so that this dosage could not be maintained. Nineteen of our 36 patients required 6 grams or less.

Maintenance dosage was less than 7.5 grams per day in all patients. One patient could not tolerate any L-Dopa. Most patients required 4 grams per day before any improvement was perceived. A few patients showed persistent gains with remarkably small amounts of L-Dopa per day.

Stage of disease, degree of dysphagia, tremor, rigidity, or ability to arise from a chair, walking difficulty, hand agility, or postural stability were found not to correlate well with the degree of improvement that occurred. There has developed an impression that the presence of dysphagia is an unfavorable sign for therapeutic response and possibly life expectancy.

None of our patients showed changes in blood counts or special blood studies (BUN, FBS, SGOT, SGPT, alk. phos., PBI). Most frequent side effects were gastrointestinal upsets —nausea, vomiting, anorexia; next was chorea; then orthostatic hypotension; and finally psychic or emotional effects. All of the side effects were temporary and reversible. They promptly cleared when L-Dopa was stopped or reduced. Invariably, a careful slow increase in dosage avoided a recurrence of side effects. It was our impression that the patients who displayed most benefit from L-Dopa developed chorea as a side effect.

A Clinical Trail

Edgar Kenton, M.D.
Richard A. Chambers, M.D.
Leonard Katz, M.D.

A double-blind evaluation of L-3,4 dihydroxyphenylalanine (L-Dopa) is currently being conducted in 20 patients with Parkinson's disease. An additional 10 patients with this disease have been started (non-double-blind) on this drug. Of the 30 patients, to date 21 have been completed of which 9 have shown a dramatic improvement; 3, a marked improvement; 8, a modest improvement, and 1 patient, a marked worsening of parkinsonism.

Side effects noted to date are nausea, vomiting, orthostatic hypotension, leukopenia, hypomania and hyperosmia. In addition, hyperkinesias in the form of dystonia, choreo-athetosis and grimacing movements have been observed.

Evaluation of 38 Treated Patients

Jack O. Greenberg, M.D.

The results of treatment with L-Dopa were evaluated in 38 patients referred to the Episcopal Hospital with a diagnosis of Parkinson's disease from October, 1968, through March, 1969. Eight patients were markedly improved and able to perform all functions of daily living. Thirteen patients showed an excellent response and were able to perform all functions of daily living but still had some signs of Parkinson's disease. Three of these had to be taken off the drug for one reason or another. Seven patients showed a good response with improvement in daily functions but still showing obvious signs of Parkinson's disease. One of these patients had to be taken off the drug later. Three patients had a fair response with minimal improvement in functioning and obvious signs of Parkinson's disease. Two of these had to come off the drug later. Seven patients never showed any response.

Side effects were present in a number of patients. Six demonstrated orthostatic hypotension, and of these, only one complained of symptoms upon standing. Nausea was present in 24 patients, vomiting in 14, chorea in 17 patients, and in 6 of these the limbs were involved and in 11 the mouth was involved with chewing movements. Four patients complained of dizziness or lightheadedness and 14 had episodes of con-

fusion. Eleven patients had hallucinations or "bad dreams," five became depressed, 4 were anorexic, and 2 developed incessant talking.

At the time of discharge, the majority of patients were taking between 8 and 12 capsules a day. At least three patients improved after discharge from the hospital. Most of the side-effects were dose-related and were transitory in nature. At the time of the report, no patient still on the drug had had any serious lasting side-effects.

Role of L-Dopa in the Surgical Treatment of Parkinson's Disease

Henry T. Wycis, M.D., E. Spiegel, M.D., G. Kalett, M.D. and W. Cunningham, M.D.

It is well known that relief of bradykinesia or akinesia associated with or without rigidity and with or without tremor by stereotaxic surgery has not been forthcoming. A previous publication dealing with an attempt to ameliorate this distressing symptom by placing stereotaxic lesions in the caudate nucleus in six cases resulted in partial relief in two and a more lasting result in a third case. The introduction of L-Dopa has offered a useful pharmacological approach for the treatment of this disabling feature of Parkinson's disease. Since there is a diversity of opinion regarding the effects of L-Dopa upon tremor, it was decided to treat two groups of patients (total 30 patients).

Group I were those who were surgically relieved of tremor without any demonstrable change of their akinesia; and Group II, non-surgical patients with akinesia or bradykinesia with rigidity and tremor. All patients were hospitalized and were treated with L-Dopa, 4–8 grams daily. Blood counts, blood sugars, BUN's, partial liver profiles, and EKG's were performed on admission, at one week, and three weeks later at the time of discharge. The gait, the speed of flexor-extensor movements of the fingers and severity and rate of tremor rhythm as well as tests requiring speed and dexterity were filmed for exact time intervals before and after L-Dopa. Toxicity and side effects were filmed for exact time intervals before and after L-Dopa. Toxicity and the side effects were recorded. The result in both groups were compared and were briefly illustrated by a short film clip.

EDITOR'S NOTE

Two errors appeared in connection with the *Memoirs* published in the July 1969 (Vol. 37, No. 1) issue of the *Transactions & Studies.*

The memoir of John Arthur Daugherty (1902–1968) was prepared by Allen W. Cowley, Sr., not by Edward C. Raffensperger, as printed, or by Victor C. Vaughan, III, as listed in the Contents. The memoir with its correct author is republished in this issue.

The author of the memoir of Joseph Howard Cloud (1872–1968) was Victor C. Vaughan, III, as printed, not Edward C. Raffensperger, as listed in the Contents.

The Editor and Publisher apologize for these errors.

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Health Care for the 1970's[1]

By JOSEPH T. ENGLISH, M.D.[2]

THE College of Physicians of Philadelphia was born in a time and climate of revolution.

Its first meeting was held on January 2, 1787—nine months before another group of men, in this same city, were to sign a document designed to "... form a more perfect Union, establish Justice, insure domestic tranquillity, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty...."

Eleven years earlier, also in this same city, one of the officers present at that first meeting of the College, Dr. Benjamin Rush, had been among the signers of still another document which proclaimed to the world that the rights to life, liberty, and the pursuit of happiness were both self-evident and inalienable.

And nine years earlier still, in 1767, John Morgan had proposed the idea of a Philadelphia College of Physicians to Thomas Penn. Thus, the birth of this enduring institution is interwoven with the events, the ferment of crisis and change, that produced the American Republic.

The *Pennsylvania Packet and Daily Advertiser,* in its issue of February 1, 1787, published the constitution of the newly created College. Its declared purposes were:

> "... to advance the Science of Medicine, and thereby to lessen Human Misery, by investigating the diseases and remedies which are peculiar to our Country, by observing the effects of different seasons, climates and situations upon the Human body, by recording the changes that are produced in diseases by the progress of Agriculture, Arts, Population, and Manners, by searching for medicines in our Woods, Waters, and the bowels of the Earth, by enlarging our avenues to knowledge from the discoveries and publications of foreign Countries; by appointing stated times for Literary intercourse and communications, and by cultivating order and uniformity in the practice of Physick."

Allowing for the impact of time on language, that statement of purpose bears reexamination today, nearly two centuries later. We are again in a time of ferment, of crisis and change. Where do we stand today:

In our efforts "to lessen Human misery?"

In our understanding of "the effects of different ... situations upon the human body?"

[1] James M. Anders Lecture XLVIII, The College of Physicians of Philadelphia, 5 November 1969.

[2] Administrator, Health Services and Mental Health Administration, Department of Health, Education and Welfare, 9000 Rockville Pike, Bethesda, Maryland 20014.

In coping with the changes produced by progress in "... Population and Manners?"

In "cultivating order and uniformity in the practice of Physick?"

We have moved through 18 decades. During the last three of them, the science of medicine has advanced unbelievably. Yet human misery still surrounds us. In fact, the main difference between today's misery and that of 1787 is that today we have the *capability* for alleviating it which the founders of the College did not. We have not yet found ways of delivering that capability where the misery is greatest.

In these 18 decades, we have achieved some order and uniformity in medical practice, viewed in the narrow context of what the physician does. We have achieved neither order nor uniformity if we view medical practice from the outside, in the setting of the universe of need. There is neither order nor uniformity nor equity of access to medical service. There is neither order nor uniformity nor efficiency in the way the health care system works.

In fact, these same purposes which the founders of The College of Physicians of Philadelphia perceived in somewhat different form and to which they addressed their new institution in 1787 are those which confront us as we enter the 1970's. They are central to the crisis we face in the delivery of health care. How shall we apply the advances of medical science to the lessening of human misery with equity, efficiency and dignity?

The existence of a crisis in the delivery of health care is proclaimed in our daily newspapers. Our growing population, which is also growing more sophisticated every day, knows there is a crisis. People know about the miracles of modern medicine. They also know, through experience, of the unmet needs in terms of both quality and quantity of care available. They wonder how the same ledger can contain such contrasting entries.

We in the health professions are becoming more widely aware of the dark side of the ledger. We know:

That the United States ranks 15th among the nations of the world in infant mortality;

That we are 22nd in life expectancy for adult males;

That nearly half the women in this country giving birth in public hospitals this year will have had absolutely no prenatal care;

That 22 per cent of the children born of these women will be born prematurely;

That 5 per cent of all children born this year in this country will be born mentally retarded, and that 75 per cent of those mentally retarded children will come from urban and rural poverty areas;

That a poor child born in the United States in 1969 has twice the risk of dying before his first birthday as would one of our children, and four times the risk of dying before reaching the age of 35.

We also know enough to suspect some relationships among these facts—between lack of prenatal care and infant mortality, prematurity and mental retardation, for example. The relationships between these national data and specific local situations are becoming clearer. In a study of the City of Chicago in 1963, for instance, there is a striking correlation between infant mortality and premature birth rates and the income levels of the population.

Meanwhile, other very relevant facts are being added. In the Kenwood section of Chicago—a very low income area today—there were 42 physicians 20 years ago serving a population of about 25,000. Today, 46,000 people live in Kenwood, served by two physicians.

Nor is this exclusively a problem of the urban ghetto. In a county seat town in the eastern part of the State of Washington there were, just ten years ago, six physicians and a good small hospital. Since then two have died; one has retired; a fourth has moved to Seattle. When one of the two remaining doctors decided to follow his

colleague to the city, the last one faced the fact that he could not operate the hospital alone. The population needing care has remained relatively stable. The care available to them has virtually vanished.

This example illustrates another significant point. The health care crisis is not confined to the poor—for this is a relatively wealthy agricultural area. Certainly the situation in the ghettos and in the rural poverty pockets is the most desperate and cries out the most urgently for solution. But the crisis is national. It is nation-wide. And it is felt to some degree by non-poor as well as poor, by suburbanite as well as central city-dweller and farmer.

On July 10, 1969, Secretary Robert Finch of HEW and his newly appointed Assistant Secretary for Health and Scientific Affairs, Dr. Roger Egeberg, presented to President Nixon their assessment of the health care challenge. The report opened with these words:

"This Nation is faced with a breakdown in the delivery of health care unless immediate and concerted action is taken by government and the private sector."

Those are grave words. They cannot be taken lightly, coming from men accustomed to dealing with crisis in its most urgent forms. The course of health care in the 1970's will determine whether or not we avert that breakdown. Will we be able to take immediate and concerted action, and will it work?

The lessons of the years just past should be instructive to us. We have, it seems to me, acted upon and exploded two myths in the past 20 years.

The first of these myths was that massive investment of money and talent in biomedical research would result in advances that would automatically be transmitted throughout the health care system to the benefit of all. We made the investment. The advances came—brilliant advances in every field of medical science and technology. But the automatic transmission throughout the system did not occur. Instead, the gap between the best in medicine —which rose rapidly—and the medicine available to great numbers of our people—which did not—became wider.

The second myth was that the problem of access to the best in health care was strictly a financial problem. All that stood between some 30 to 45 million people and the mainstream of American medicine was lack of money. If they were given a money ticket into the system, we assumed, they would then automatically be able to partake of the highest medical excellence.

This mythology was the subject of intense debate. But the debate centered on how to issue the money ticket, and whether it should come from governmental or private sources. Enactment of the Social Security Amendments of 1965, which created Medicare and Medicaid, was the outcome of this economic and ideological dialogue.

But the validity of the myth itself was scarcely debated at all. Today 76 per cent of the greatly increased total federal investment in health is devoted to the financing of health care—to the issuing of money tickets. And today we are learning painfully that again no automatic, universal access to the mainstream of medicine is occurring. For millions the mainstream still does not flow. There is no one to honor properly the tickets they possess.

The result has been a greatly heightened demand—effective demand in the economic sense—for high quality health care. This demand has placed enormous stress on the capacity of the American health enterprise.

Physicians face greatly increased patient loads—sometimes double or triple the load they were bearing before. Inevitably this strains each physician's capacity to give every patient the highest quality care. It drives him to increase his charges—in part, at least, to protect his own coronary vessels by buffering the demand. The sheer weight of numbers of patients seeking his attention forces him to put those who are seriously

ill into hospitals—many of whom might have been cared for outside the hospital in other circumstances. This, in turn, strains the already overtaxed hospital resource.

Thus, we risk dilution of the quality of care. We experience skyrocketing inflation in medical prices. We find increasing inequities and indignities in the human relationships involved in health service. All of these happenings—which are part of the potential "breakdown" to which the Secretary and Dr. Egeberg referred—are the products of an unprepared system laboring under overwhelming quantitative demand.

It should not be inferred that the Nation's investment in biomedical research and its more recent investment in the financing of care were not important and necessary. Research has led and will continue to lead to heightened medical capability without which the whole medical enterprise would wither and die. Medicare and Medicaid have knocked down the financial obstacle to medical care for millions of people who desperately need it.

Rather, the point is that neither of these two investments has solved the basic problem of getting good health care to all who need it. Standing between them and that goal is the capacity of the health care system to deliver.

Later on in their report to the President, Mr. Finch and Dr. Egeberg wrote:

"Our task now as a Nation is to acknowledge the extreme urgency of the situation, to take certain steps to arrest the inflation that is paralyzing us, and to put in motion initiatives that ultimately will reshape the system. This task is obviously not one for government alone, although government has a major role to play. Much of the burden must be taken up by the private sector since it has the primary responsibility for the delivery of health care."

The Secretary and Assistant Secretary then listed a number of specific responses to this crisis. Among these initiatives were a number of actions designed to build the capacity of our national health resources, so that they can respond to the scale of the challenge. These responses recognize the central fact that governmental action in the health care field must, because of the particularly local and personal character of medical care, have its impact in the community. For it is there that doctors and hospitals face, every day, the demands of serving more people better than ever before.

There is a great feeling in this country, supported by many studies, that our greatest need is to develop primary family health care. Primary care is the point of entry into the system. It is the point where the great quantitative need can and should be met. Yet what is the nature of primary care in this country today?

For the 46,000 people who live in the Kenwood section of Chicago, with two physicians, primary care is Cook County Hospital which sees one million patients per year. For literally millions of people, primary care is a long bus ride, two hours on a hard bench, impersonal treatment by the numbers, perhaps at the end of it a referral to another time and place involving another bus and another bench. Different but also acute problems confront the rural and suburban American in pursuit of primary care.

This is not the face of American medicine that we like to present to the world. It is not the face we tend to talk about when we assemble in our medical forums to discuss the present and future. In fact, this is an important part of the problem. No medical institutions exist to whom we can address the big questions like "Whose responsibility is primary care in the 1970's?"

The physician, through the institutions and organizations he has created, has always accepted responsibility for what he does. He bears with pride the full weight of responsibility for his patients, and this is a responsibility of life and death in the most literal sense. But neither he nor his professional organizations nor any other institution in

our society has accepted responsibility for what the physician does not do—for the great numbers of people needing health care who are no one's patients.

What we urgently need today is a revolution in the institutions of medical care that will create new foci of responsibility. Here in this city, which cut its teeth on revolution, this should be not a threat but a challenge.

The shape and substance of these new institutions is not yet clear. But it is very clear that they must evolve out of the public-private partnership that is now being built. Neither private medicine alone nor government alone can do the job.

Hopeful signs are beginning to emerge. The revolution is already underway. Let me cite a few examples.

When the Federal government established the Headstart program a few years ago, it was seeking to meet head-on the problems of poverty's child. To meet the critical health needs of the Headstart children, one of the great institutions of private medicine, the American Academy of Pediatrics, stepped forward to assume responsibility. As of the first of this month, 697 pediatricians are currently at work on Headstart projects, and another 272 are enrolled and ready to be assigned as soon as projects get underway. This is private-public collaborative effort at its best.

When government confronted the problems of the Watts community in Los Angeles, another private institution—the Medical School of the University of Southern California, then under the direction of Dr. Egeberg—accepted major responsibility for the medical aspects of that task in cooperation with the Neighborhood Health Centers program of the Office of Economic Opportunity. Today 10 OEO health projects are actually administered by medical schools, another 10 by teaching or community hospitals, two by medical societies and 3 by group practice organizations. In all, nearly half the medical schools of the country and some 15 medical societies are involved in the operation of Neighborhood Health Center projects.

In Seattle, the Washington State Medical Society and the Medical School of the University of Washington are co-sponsoring with the Federal government a project designed to take advantage of a great untapped source of medical expertise—returning medical corpsmen of the armed forces. Fifteen men with up to 1900 hours of formal medical training are now working with private physician-preceptors, using skills gained in a military setting. They are called Medex—from the French phrase *medicin-extension*—and they may be the vanguard of many more. Two of these men, incidentally, are now working in that community which had lost almost all its physicians. The fact that they are there has enabled the hospital to stay open.

In a West Oakland slum area, across the bay from San Francisco, 50 physicians and dentists now serve a community that had only five health professionals a few years ago. They are there because the West Oakland Health Center is there. The West Oakland Health Center is there because community residents—all black, none wealthy, only a few high school graduates—studied their health needs and found the resources and the leverage to meet them.

More examples could be cited—not enough, but an indication that new health institutions are evolving, cut to the measure of the health challenge of the '70s. Each of these examples illustrates a different kind of public-private partnership.

By far the greatest share of the increased Federal investment in health in the past few years has been on the financing side of the equation. Medicare and Medicaid together account for more than three-fourths of the $14 billion Federal input in the $53 billion health industry. By contrast the governmental investment in building the capacity of the system is very small.

Yet several programs, mostly of very

recent origin, are now underway with the purpose of strengthening capacity by improving the ways in which health care is organized and delivered in the community. Most, though by no means all, of these are now pulled together in the Health Services and Mental Health Administration, or HSMHA as we call it. We believe this big new agency has a vital role to play in meeting the challenges of health care in the 1970's.

The aim of HSMHA is to strengthen each component involved in the delivery of care. We are involved in partnerships with every element of the purveyor system—the physicians, the hospitals and other community institutions and agencies, state and regional authorities, voluntary groups. We are also in partnership with the consumers of health care who have an important role to play in assuring that they are well served.

Within HSMHA, several specific programs provide us with levers for helping to raise the capacity of the national health resource at the community level, where medical care happens.

The National Center for Health Services Research and Development, formally established on July 1 of last year, stimulates and supports experimentation with new methods of delivering health care. It seeks to apply scientific methodology in the social and behavioral sciences to problems of medical care organization and delivery in the community setting. Among its highest priorities are devising new approaches to the delivery of medical care for the poor and testing methods which show promise of controlling and reducing health care costs. The Medex project in Seattle is one example of an innovative approach sponsored by NCHSR & D.

Project grants under the Partnership for Health are encouraging new ways of delivering care. They support innovative efforts of a variety of health institutions and agencies. Many of these projects are also reaching into neighborhoods and districts where care has been least accessible in the past, with emphasis on primary ambulatory care. The West Oakland Center is one of a growing number of such projects.

The Regional Medical Programs constitute a powerful resource upon which the community may draw for resolution of health problems. They pull together into an effective functioning alliance the full medical strength of the region, to assure that the best in care can in fact be delivered where it is needed.

The Maternal and Child Health programs formerly administered by the Children's Bureau of HEW have just been transferred to HSMHA this past month. They represent $265 million of Federal support for project and formula grants to States and communities. Much of this support underwrites primary care in the family and neighborhood setting, including family planning services as an integral part of health care. The new organizational placement of these programs gives us an opportunity to strengthen greatly the total impact of our efforts.

At a somewhat more sophisticated level of care, we have a strong lever in the Community Mental Health Centers Program. The intent here is to deliver mental health services as a part of the total health care package within a community.

The Hill-Burton facilities construction program has long been a primary tool for enhancing the capacity of the total system. As priorities of need are changing, the emphasis of this effort is changing toward helping the hospital make its maximum contribution to the total spectrum of community health care.

As we view them, these and the other Federal health service programs should constitute resources on which the community, and its private medical institutions, can draw. The place where they need to fit together is in the community. Our task as administrators is to help this synthesis to happen.

Our support of areawide planning agencies under the Partnership for Health Act is one mechanism designed to help achieve this synthesis at the community level. The role of these agencies that we see emerging is one of community trusteeship. These agencies should bring together the consumer and the purveyor of health services to oversee the distribution and use of resources, identify the unmet needs and set realistic priorities. They represent not an operating agency but rather a focal point for community responsibility in health.

This battery of Federal health programs, plus others that could be listed both within and outside HSMHA, does not constitute a solution to the problem. Rather, it constitutes an invitation. If these programs are to work at all, they must be met halfway—and more than halfway—by the private institutions of health care. You, here in The College of Physicians of Philadelphia, and your colleagues and counterparts across the Nation, are the ones who ultimately must resolve the health care crisis.

The crisis is very real. The people of this country know what good health care means, and they want it very much. They are not satisfied with what they are getting, with the price they are paying for it. You can hear the voices of discontent in the poorest ghetto and in the most sophisticated cocktail party. These voices will not be quiet until the need they express is fulfilled.

Looking back across 200 years, I would say that the Philadelphia College of Physicians is no stranger to crisis. It was born in crisis and its founders were involved in revolution. The purposes to which it was dedicated are alive and meaningful today—to advance the science of medicine, to lessen human misery, to bring order and uniformity to health care.

All that has changed is the context—of quantitative demand for medical excellence undreamed of two centuries ago. The College of Physicians of Philadelphia, on the threshold of the 1970's, faces the revolutionary challenge of helping to make that medical excellence universally available with equity, with efficiency, and with human dignity.

125th Anniversary Salute: The Philadelphia Birthplace of the American Psychiatric Association[1]

By ROBERT ERWIN JONES, M.D.[2]

ON the evening of October 15, 1844, thirteen physicians assembled in the parlor (Figure 1) of a red brick Georgian farmhouse (Figure 2) on the grounds of the Institute of the Pennsylvania Hospital, the home of the superintendent, Dr. Thomas S. Kirkbride.

This modest setting was the birthplace of the first national medical organization in America. The men were superintendents of thirteen of the twenty mental hospitals which existed in the country at that time, and they called their group the Association of Medical Superintendents of American Institutions for the Insane, now known as the American Psychiatric Association. Its founding preceded the organization of the American Medical Association by three years.

FIG. 1. First meeting place of the founders of the American Psychiatric Association. This 1880 oil painting by Liberty Tadd shows the dining room-study in the home of Dr. Thomas Kirkbride at Haverford Avenue and 44th Street in Philadelphia.

Built in 1796, the house was previously

[1] This paper appeared in part in *Psychiatric News*, official newspaper of the American Psychiatric Association, Vol. IV, No. 10, October 1969, pp. 12–13.

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FIG. 2. The farmhouse as it appeared in the 19th Century.

FIG. 3. The Kirkbride residence as it appears today, restored by the city of Philadelphia.

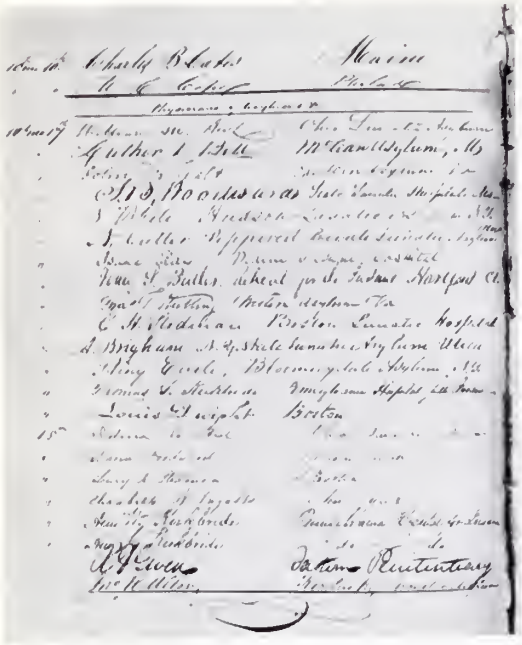

Fig. 4. Signatures of the 13 founders in the "Visitors Book" at Pennsylvania Hospital. Wives also attended the first convention.

the residence of Paul Busti, a successful Italian immigrant merchant and representative of a Dutch trading company. A prominent avenue in Buffalo, New York, still bears his name.

This landmark in the history of American medicine has been completely restored (Figure 3) and now serves as a recreation center for a neighborhood playground. The original furniture and *objets d'art* from the room are preserved in the historical museum at Pennsylvania Hospital. Many of the books have been donated to the APA library in Washington, D.C.

The hospital "Visitors Book" contains the only known record (Figure 4) of all 13 signatures of the APA founders. Dr. Kirkbride's correspondence contains letters from all founders except Dr. Samuel White, the first vice-president and oldest of the group, who died a few months after its founding.

The founders' letters to and from Dr. Kirkbride, first APA secretary and later

Fig. 5. The Jones Hotel, scene of the official beginning of the American Psychiatric Association, no longer stands on Chestnut Street above 6th, one block from Independence Hall.

Fig. 6. Dr. Thomas S. Kirkbride, first secretary of the APA and host of the first convention.

president, record that the idea for the organization developed in the spring of 1844 when Dr. Samuel Woodward, superintendent of the State Lunatic Asylum at Worcester, Massachusetts, journeyed south to visit Dr. Francis T. Stribling of the Western Lunatic Asylum in Staunton, Virginia. Dr. Kirkbride wrote to Dr. Stribling (June 15, 1844):

"As respects a convention of the Medical Superintendents of Insane Hospitals, I agree with you that much benefit might result from such a meeting, particularly as respects the statistics of such institutions. There are some difficulties in the way, however, and preparatory to a meeting it appears to me that all should be aware of the matters likely to be discussed and have some idea of what plans are likely to be proposed for general adoption. To be efficient, the action of such a convention should as far as possible embrace all the asylums of character in the country. Should Philadelphia be selected as the place for meeting, I should be very glad to do everything in my power to make all who attend perfectly at home and to see to any preparatory arrangements that may be required."

On August 22 he wrote:

"I . . . shall take great pleasure in making arrangements you suggest, relative to the meeting of Physicians to Hospitals for the Insane to be held in Philadelphia in October next. I had already concluded to make an arrangement with Mr. Jones for any accommodations we might desire, and no better place for first getting together could be designated."

At Dr. Kirkbride's invitation, the superintendents gathered for dinner at the Kirkbride residence. There they formulated some preliminary plans, which were confirmed the following day when the group met at ten o'clock in the morning at the Jones Hotel (Figure 5), which stood on Chestnut Street above 6th, one block from Independence Hall.

The founders quickly developed a high regard for one another and an *espirit de corps* among themselves in caring for the "class of unfortunates," as Dr. Stribling called the insane. Isaac Ray referred to the group as "brethren"; John S. Butler nicknamed them the "Old Originals." They joked about themselves as "mad doctors" or "insane doctors." None, of course, called himself a psychiatrist, although Pliny Earle came close by calling them "rich psychiaters."

On the evening of October 20, 1844, the Association adjourned to meet in May 1846, in Washington, D.C. The members felt that their meeting had been a success. Dr. Samuel Woodward, who was elected the first president, wrote to Dr. Kirkbride:

"The time spent in Philadelphia was one of the most profitable and agreeable seasons that I have ever enjoyed. I trust much good will come from the convention and hope the ardour manifested at the meeting will not be suffered to cool so as to prevent full and able reports on all subjects assigned to committees."

And years later, in 1854, Dr. Ray wrote to Dr. Kirkbride:

"If our yearly conventions had accomplished nothing more than to make us acquainted with one another, and with other institutions beside our own, creating feelings of personal regard and mutual sympathy, I should think they had not been in vain."

Dr. Kirkbride (1809–1883) (Figure 6) was a Fellow of The College of Physicians of Philadelphia. His portrait by Howard R. Butler hangs in Thomson Hall of the College.

Memoir of Sir Henry Hallett Dale 1875–1968*

By GEORGE B. KOELLE, PH.D., M.D.

THE death of Sir Henry Hallett Dale at the age of 93 on July 23, 1968, has been truly characterized as the end of an era (1). With the exponential increase in the numbers of investigators in all fields of science during the present century, only a very few of their names can be expected to achieve a degree of permanency that will insure their being quoted beyond the immediate future, either in histories of science or in the bibliographies of contemporary research and review publications. Sir Henry Dale will surely be one of these. His extensive series of brilliant and meticulous investigations in several areas of pharmacology and physiology, along with his carefully drawn conceptional conclusions, established him as one of the world's foremost figures in these disciplines. Dale's research achievements were recognized by many awards and honors, including the Nobel Prize which he received along with Otto Loewi in 1936 for their major, independent contributions towards establishing the theory of neurohumoural transmission. Dale served, and consequently influenced in a still broader sense, medicine and science in general in his successive capacities of President of the Royal Society, of the British Association, of the Royal Society of Medicine, and of the British Council, as well as that of Chairman of the Scientific Advisory Committee to the British War Cabinet during World War II. As Chairman of a Conference of the Health Organization of the League of Nations in 1925, he was primarily responsible for the adoption of international standards of drugs that required biological standardization. In addition to his activities in these official posts, Sir Henry was throughout his life regarded by the medical community as a source without peer for sound judgement, careful criticism, and enthusiastic interest, both at scientific meetings and in the private interviews for which he made himself available freely until the time of his final illness.

It would be impossible in a short space to review Dale's direct scientific contributions, their broad significance, and their major impact on subsequent research. This has been done admirably in a memoir prepared by his longtime friend and scientific collaborator, William Feldberg (1), and in a delightful anecdotal account written by Dale himself, half-a-dozen years before his death (2). Accordingly, only the most important highlights of his scientific career will be mentioned here.

Following his graduation from Cambridge in 1898, Henry Dale remained two additional years as a research student in physiology under J. N. Langley. He then completed his clinical studies for his medical degree at St. Bartholomew's Hospital, London; remarkably for a pharmacologist of that time, this was his last formal academic affiliation. Having decided upon a career in research, Dale spent a brief period in Paul Ehrlich's Institute at Frankfurt. He then accepted an appointment to undertake pharmacological investigations at the then recently established Physiological Research Laboratories of Burroughs Wellcome and Company, where he remained as an active investigator for ten years, and subsequently served as Chairman of the

* Prepared at Pahlavi University, Shiraz, Iran, at the request of the Council of The College of Physicians of Philadelphia.

Wellcome Trust. The remainder of Dale's career as a direct participant in research was spent at the National Institute for Medical Research, where he was Director from 1928 until his retirement in 1942.

As Dale himself often pointed out, several of his major discoveries originated from an investigation of the pharmacological properties of the crude drug, ergot, which he undertook at the suggestion of Sir Henry Wellcome after joining the company's laboratory. These included the first demonstration of adrenergic blockade; the isolation, pharmacological characterization, and exploration of the physiological or pathological significance of tyramine, histamine, and acetylcholine; and the discovery of the oxytocic action of posterior pituitary extract. From related studies, Dale introduced the concept of fixed, as opposed to circulating, antibodies as the basis of anaphylaxis and hypersensitivity.

Dale's major research achievements were in the conception, establishment, and extension of the theory of the chemical transmission of nerve impulses, or neurohumoural transmission. Early suggestions of this were made by Du Bois-Reymond and Lewandowsky in the preceding century, and by T. R. Elliott and J. N. Langley shortly before Dale's precepteeship in the latter's laboratory. While comparing the actions of a large number of synthetic epinephrine-like compounds in collaboration with G. Barger at the Wellcome laboratory, Dale like his predecessors was impressed with the resemblance between the actions of many of these drugs and those of the sympathetic nervous system; however, with characteristic caution he pointed out that epinephrine did not mimic such nervous influences as closely as did norepinephrine, a compound which then was not known to occur in the body. (Over thirty years later, von Euler showed that the actual sympathetic transmitter is in fact norepinephrine). Shortly afterwards, during his analysis of the actions of acetylcholine, Dale noted the close identity between its actions and those of parasympathetic impulses. During these studies, Dale coined the terms "sympathomimetic" and "parasympathomimetic," which like many others which he introduced are standard in the current medical literature. Following Otto Loewi's demonstration that vagal impulses to the frog's heart are transmitted by a chemical agent, and his identification of the transmitter as acetylcholine shortly afterward, the subsequent confirmation and extension of this principle were due largely to the work of Dale and his many collaborators. Outstanding among this group were G. L. Brown, J. H. Burn, J. Gaddum, W. Feldberg, and M. Vogt. Together, they showed that acetylcholine is the transmitter also for mammalian postganglionic parasympathetic fibres and a few sympathetic fibres, preganglionic fibres of the entire autonomic nervous system, and the motor nerves of skeletal muscle; in addition, they obtained suggestive evidence of cholinergic transmission at certain sites in the central nervous system, which has been amply confirmed in recent years.

The sequential announcement of these findings during the 1930's must have generated considerable excitement, for unlike now, the concept of neurohumoural transmission was at that time by no means generally accepted. For example, when Dale presented at one meeting the evidence that acetylcholine is the transmitter of sympathetic impulses to the sweat glands, the physiological significance of his findings was challenged by one young listener (who subsequently also received a Nobel Prize). Dale replied that the same misgivings had occurred to him, but that he had reassured himself as follows: A few days previously, he had played several sets of tennis, then adjourned immediately to the laboratory, where he had extracted his socks with saline solution and tested

the extract for acetylcholine-like activity on the leech-muscle preparation; the result had been distinctly positive.

A total list of Sir Henry Dale's collaborators during his active investigative years would include many of the world's outstanding pharmacologists and physiologists of two generations. Among these were two of Philadelphia's most distinguished medical scientists, Alfred Newton Richards and Julius H. Comroe, Jr. It was a historic occasion in September, 1953, when Dale, Loewi, most of the aforementioned investigators, and a host of others met in Philadelphia for a two-day Symposium on Neurohumoural Transmission (3). This was probably the last formal assembly of these two giants of research, their disciples, and their scientific proponents and adversaries. The years that have followed have seen tremendous advances in our knowledge of the function of the nervous system at all levels, from the behavioral to the molecular. In pace with this progress has been the development of a large number of new and more effective drugs for the treatment of nervous and mental disorders, the neurogenic aspects of hypertension, and a variety of other illnesses. The foundation of much of this work can be traced back directly to the researches of Dale and his associates. The College of Physicians of Philadelphia is indeed honored to have had Sir Henry Hallett Dale among its Honorary Fellows.

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The Custodianship Cabinet of The College of Physicians

The recent redecoration of the Hutchinson Room, off the main foyer of the College Hall—instigated by President Francis C. Wood, supervised by Mrs. Wood, and generously contributed as a gift of Dr. and Mrs. Wood to The College of Physicians—required the moving of the Custodianship Cabinet, which contains mementos of five of the world's greatest healers. A pamphlet, describing the mementos, was found beneath the glass case.

The author of the pamphlet could not be identified. However, a search by W. B. McDaniel, 2d, Curator of Library Historical Collections, revealed that the booklet is referred to in an account of a "Special Meeting in Honor of Madame Curie" at the College on May 23, 1921. The opening overture is an "Address of Robert Abbe, M.D., New York." Mrs. L. M. Holloway, Associate Curator and Cataloguer of Historical Materials, then discovered that there is a copy of the pamphlet among Dr. Abbe's collected reprints, a fact which indicates that he is the probable author. Miss Marie deBenneville provided biographical information about Dr. Abbe.

Because the pamphlet has been out of circulation for many years and because of its rarity, it is reprinted in this issue in a form similar to the original. The address of Dr. Abbe (Figure 1), collector of the mementos, is also reprinted as a preamble to the pamphlet itself.

The Custodianship Cabinet had its beginning in 1920 when Dr. Abbe presented the College with the gold watch of Benjamin Rush. The next year he donated $5000 with which to maintain or increase the cabinet of mementos of historic persons who greatly added to the advancement of science.

Dr. Abbe was born in New York City in 1851. In 1922, he became interested in the many stones that he found on a street in Bar Harbor, Maine. This interest resulted in the founding of the Lafayette National Park Museum of the Stone Age Period in Mt. Desert Island, dedicated in 1928.

His chosen profession, however, was medicine, and his practice was based upon the soundest principles. One biographer wrote: "His alert mind and pioneer spirit led him far beyond the routine of a surgeon's practice." He worked with the hope that much that he was doing in surgery might be better and painlessly done through future discoveries. He became a missionary for the discovery of radium by Professor and Madame Curie, but he met with criticism for his prompt use of the element.

Additional mementos have been added to the cabinet since 1921, and a pamphlet describing them will be prepared.

The conditions of the custodianship require that, if a custodian fails to name his successor, one shall by chosen by the Council of The College of Physicians. The most recent custodian (1928–39), Dr. William J. Mayo, died without naming a successor. The task of choosing a new custodian, after a 30-year lapse, now awaits Council.

The Editor

SPECIAL MEETING IN HONOR OF MADAME CURIE*

ADDRESS OF ROBERT ABBE, M.D.

New York

You will find an illustrated booklet in each seat of this hall describing the mementos of the five great names of our profession and of science, which are the milestones of scientific progress in the healing art during the past century or more. These mementos are tonight exhibited for the first time in a case in which they will permanently remain in your keeping.

Fig. 1. Robert Abbe, M.D., originator of the Custodianship Cabinet.

Your reading of this booklet now or at your leisure will save the time necessary for the telling and enable me to occupy the few moments before Mme. Curie's coming tonight to explain more fully the object of her presence here and of her visit to our country.

Those of us who arranged her itinerary in this short six weeks between her leaving Paris and returning to it have faced an enormous demand for her presence at universities, societies and cities all over our country. Knowing her delicate health, and the need of conserving her strength, we have chosen such visits and duties as would satisfy her wishes and the universal desire of institutions of learning to see her, and yield the greatest benefit to science and popular education without fatiguing her, and yet stimulate her life, if possible, to complete the wonderful work ahead of her.

She comes to us after many years of fatiguing labor. The great war took toll of the University of Paris from the first gun fire. Most of the students and the great corps of professors and teachers abandoned the class-room for the battlefield. She was among the first to abandon her laboratory, and until the day of the Armistice was at the front with her daughter in X-ray work.

When she returned, all was desolate. It was as if life were either to stop or to begin over again.

By almost an act of genius the initiative of an American, Mrs. William B. Meloney, accidentally a visitor to Paris on another mission, touched a key that evoked an appealing note of sympathy in the hearts of the women of our country. An extraordinarily spontaneous response called out working committees of women all over our land. By admirable organization one of the largest purely woman's movements has excited a sympathetic feeling for the triumph of pure science—as illustrated in Mme. Curie—and also by innumerable small contributions from women created a fund to present her with the accessories for equipping her disorganized laboratory.

She has confided the fact that one of her desires has been to come here tonight and personally present and dedicate the historic scientific instrument which you see before

* Read May 23, 1921.

you to such educative purpose as its presence may evoke.

When I finally brought it safely to my office a few days ago—after many vicissitudes—and unpacked it tenderly, my assistant was touched by its impressive meaning and said, "Don't you think it will be lonely over here?"

I said, "Yes, perhaps, until Mme. Curie comes and places her hand affectionately on it and commends it to our care."

That, my friends, she will do in a few moments.

Her reception in this country will be a just tribute to one of the world's most distinguished woman scientists; but nothing, I judge, can equal the momentous and thrilling ovation given to her a fortnight ago in Paris on the eve of her departure.

The scene was the great Opera House.

The stage was set by Guitry, the Belasco of the French Theater. The house was packed with a distinguished audience.

Flags, decorations and music were elaborate. The curtain rose on a stage filled with officers of state, professors of the university—in robes—and in the center the modest, shrinking, woman savant. Splendid addresses were given, laudatory and impressively true.

Then the curtain fell, only to rise again on a stage cleared of everything but a small table behind which Sara Bernhardt, the greatest living tragedienne, rose to deliver a brilliant eulogy written by the master of French dramatic writing, Rostand. The effect was thrilling, but thunders of applause and calls for Mme. Curie failed to bring her from behind the scenes where she had been bashfully listening to Mme. Bernhardt. I have been told by a lady who witnessed the scene that there was no climax, but a succession of tributes, one after the other, followed by an elaborate "movie" of Mme. Curie's life especially prepared by actors on the scene of her early home and laboratory work with her father, professor in the University of Warsaw, where she was his devoted assistant until she came to Paris at twenty years of age.

The scenes then depicted French university work in laboratory and mine, with detailed views of the veritable workshop and scenes of her triumph in the epoch-making discovery of radium.

From such an emotional farewell she made her first crossing of the ocean, and, yesterday, was the center of interest at the most momentous scientific event ever given at the White House, when President Harding presented to her the gift from the women of our country, a gram of radium. The President made one of the most beautiful addresses I have ever heard, full of charm and dignity. Mme. Curie responded most happily. Before her was the fine mahogany box containing the precious mineral which she had discovered, confined in an interior case of lead weighing a hundred pounds. The little gold key to this box was presented to her by the President, which she afterward wore around her neck on a tri-color ribbon.

From the fatigue of that and other ceremonies she comes to us tonight with particular pleasure to dedicate the memento which will repose in your cabinet. You will see in her a woman of rare charm, but the antithesis of all that savors of pompousness. She has the tenderest heart in her frail body, but the keenest sense for all scientific conversation, with unaffected disdain of small talk.

I desire to say a few words regarding the care of mementos you see on the platform and the custodianship of them, worthy, I hope, of your perpetuation.

More than ten years ago, as you know, there was presented to me the beautiful gold watch of Dr. Benjamin Rush, one of your society's founders and a hero of Revoluntionary days. It was made the subject of a custodianship to be held as an honor, by successive members of our profession who represented the same high qualities of mind and lifework as he did. The first

custodian was Dr. Weir Mitchell. He chose Dr. Simon Flexner as his ideal and successor. Dr. Flexner, after three years, passed it on to Dr. William H. Welch, who accepted the honor and is its present custodian, to the delight of everyone, saying: "Why! It's like the gold-headed cane."

I saw the gold-headed cane in the College of Physicians' cabinet in London last summer, and with it were five other treasures: First, a pair of scissors belonging to Jenner and a cow's horn from one of the historic animals used in vaccination; second, a small wooden stethoscope used by Laennec; third, a short ebony pointer used by Harvey in his lectures on the blood; fourth, a small silver platter given in 1661 by the Fellows of the College, but stolen in 1666 at the looting during the great fire of London. It was lost for 250 years and was recovered at a collector's sale of old silver a few years ago.

I was inspired by this small group and by its effect upon me—to think I might acquire some things worthy to add to our custodianship. My hope was of Lister, Pasteur and Curie, but from the first inquiry I was given discouragement.

Pushing my endeavors during my short stay in London and Paris, I was at last rewarded by three remarkable gifts and veritable treasures, of each great name, and these I present tonight:

A box of surgical instruments used by Lord Lister.

A large model of a tartrate crystal used by Pasteur.

A wonderful historic instrument made by Pierre Curie, and used by him and Mme. Curie in her immortal discovery of radium.

These memorable souvenirs probably cannot be duplicated anywhere outside of the Lister, Pasteur and Curie Museums. They were secured through the assistance of Dr. Keen and Dr. Gibson, and by the gifts of Sir Rickman J. Godlee (Mr. Lister's nephew), of Calmette and Roux (Pasteur's assistants and successors), and of Mme. Curie herself.

In the possession of this institution there has been an inkstand of Jenner, which was given by Dr. Weir Mitchell, and has been permitted to repose in this cabinet as one of the memorable souvenirs.

With these five in the cabinet are portraits of each distinguished scientist and a beautifully bound volume of historic data, biographic notes and autograph letters of each.

In addition there are the custodianship conditions and portraits of each successive custodian, with his letter of nomination and acceptance.

These, in the coming years, will constitute a memorable collection of our own illustrious scientific, educational and humanitarian fellow-men whose deeds and lives will be worth emulation.

When, in a few minutes, Mme. Curie arrives and President Taylor invites her to formally present her great gift, to place her hand upon it, affectionately bid it goodbye and commend it to its good purpose as a permanent part of this cabinet, we will realize that for all time it will bear the actual finger-prints of the discoverer of radium, as the Pasteur crystal model, the Lister instruments, the Jenner inkstand and the Rush watch do of their former owners.

If I were asked again, "Will it not feel homesick?" I would say: "Let us imagine some future evening here in this beautiful hall after the scientific audience has gone, the lights are turned out, the janitor has made his rounds, locked the door and gone home, the moonlight streaming in the tall windows near the case, and the Liberty Bell in Independence Hall has struck midnight by some fairy hand. Then the little fairy spirits that stand guard over these mementos awake. From the Curie instrument one stretches out his hand and touches another of one guarding the Pasteur crystal, grasps it and a chatter in French breaks the silence. This wakes up the sprightly guardian of Lister's instruments and Jenner's inkstand, who join in an international parley at

which the American spirit of Dr. Rush climbs out of his invisible retreat and they all dance about and narrate their wonderful past.

"Then one can see as the dawn breaks they all hide again invisible. The janitor unlocks the library and vistors come to study and pay homage to the great names we all worship.

"This historic instrument will not be lonely."

Of all the galaxy of stars illuminating the past, none commands greater reverence than Pasteur. The portrait of him most treasured by the Institute has been perpetuated in a fine large etching presented to us by Calmette and brought over by Dr. Keen. It is in beautiful contrast as showing the fine serenity of his later life to the earliest known portrait of which I find a copy in Dr. Weir Mitchell's collection in your library. This early one is so rare that few know of it. That early face is the pure scientist, typified in a quotation which is a tribute to his character, taken from one of his letters to his young love in offering his life to her. He says:

"Time will show you that below my cold, shy and unpleasing exterior there is a heart full of affection for you."

Perhaps the main influence of this memorial case will be a tendency to raise the tone of the life of our future professional men by spreading before us some of the attributes of the highest lives devoted to the healing art, whose hearts have been completely devoted to this fruitful work.

There exists today, as always, a commercial tendency which needs to be neutralized. It is the same in business. One reads on the advertisement boards of a business college this legend, "We turn time and brains into money." What sacrilege! Time, given in our short lives for some worthier purpose—"Time is Mine, I will repay," saith the Lord. And brains, to search out the Creator, if happily we may find Him.

Is there no greater aim than making money? Let those who have so given their lives turn their accumulated wealth into the treasures of our laboratories and universities, and, after all, find the joy of service. Already fortunes are being diverted to science.

It has been a heartwarming sight to see the universal response of the women of our broad land, poor and rich, contributing as they could to the fund to equip Mme. Curie's laboratory. The great good that has emanated from them is sure to be now continued.

* * *

At the close of Dr. Abbe's address, Madame Curie arose and placing her hand on the apparatus said, "I am glad to present this instrument to so distinguished a society."

THE CUSTODIANSHIP OF

RUSH · JENNER · PASTEUR
LISTER · CURIE
MEMENTOS

IN THE CABINET OF
THE COLLEGE OF PHYSICIANS
OF PHILADELPHIA

HELD IN SUCCESSION BY
REPRESENTATIVE MEMBERS OF THE
MEDICAL PROFESSION OF THE
UNITED STATES

THE CUSTODIANSHIP CABINET OF
THE COLLEGE OF PHYSICIANS

THE COLLEGE OF PHYSICIANS

PHILADELPHIA

THE CUSTODIANSHIP CABINET OF THE COLLEGE OF PHYSICIANS

THE College of Physicians of Philadelphia has represented the lofty purpose and spirit of scientific medicine since the early days of our country, and seems the fitting repository of historic souvenirs, the nominal custodianship of which is an honor—worthy of our best men.

The spirit which actuates the lives of men of great accomplishments, is epitomized in these five representative scientists and physicians to whom this is dedicated.

The compelling force in all may be said to be: intensive preparation; unlimited resourcefulness in work; close and exact observation; strong conviction of right; defiant bravery; idealism; culture; religious faith; humanitarianism; and educative zeal.

Rush said, "I make everyone whom I meet contribute to my improvement."

Jenner wrote, "I am not surprised that men are not thankful to me, but I wonder that they are not more grateful to God, for the good which He has made me the instrument of conveying to my fellow creatures."

Pasteur said, "Opportunity comes to him who is prepared."

Lister said, "The scientist's public life lies in the work that is his."

Mme. Curie says, "I desire only to teach."

In the belief that such exalted lives are found in every decade, often in humblest surroundings, it is probable that the

man at the top will be more able to discriminate among contemporary workers, and to choose one whom he considers the exemplar of such traits.

The first chosen custodian of these mementos, Dr. Weir Mitchell, conceded by all to be such a representative spirit, was asked to name a successor, embodying the highest type of physician and educator, in productive scientific work. He chose Dr. Simon Flexner, of the Rockefeller Institute, New York. He followed the provision that the incumbent custodian should choose his successor from the ranks outside his own city. Dr. Flexner, after three years, asked to be permitted to pass on the honor during his lifetime, and chose Dr. Wm. H. Welch, of Baltimore, whom he considered the most worthy representative in our time. Dr. Welch has accepted the honor, saying, "Why, it's like the 'Gold-headed Cane,'" and has promised to choose a successor.

At longer or shorter intervals, the choice must fall on men, not necessarily known by popular acclaim or professional skill, but always by great humanitarian accomplishments and untiring work.

The letters of acceptance with portraits of each custodian preserved in the books in this cabinet will make, in time, an unmatched collection of distinguished autographs of notable American physicians.

A sufficient fund has been given with this case of mementos, to perpetuate and enhance the collection. Thus it will always be an honor to be chosen custodian, either by the incumbent, or in default of such choice, by the Council of the College of Physicians.

THE CASE AND MEMENTOS

WITH BOOKS CONTAINING PORTRAITS, ILLUSTRATIONS, AUTOGRAPH LETTERS AND BIOGRAPHIC NOTES, WITH THE CONDITIONS OF THE CUSTODIANSHIP

First Custodian—Dr. Weir Mitchell, Philadelphia, 1910–17.
Second Custodian—Dr. Simon Flexner, New York, 1917–20.
Third Custodian—Dr. William Henry Welch, Baltimore, 1920–24.
Fourth Custodian—Dr. W. W. Keen, Philadelphia, 1924–28.
Fifth Custodian—Dr. Wm. J. Mayo, Rochester, Minnesota, 1928–39.

THIS CUSTODIANSHIP WAS FOUNDED BY ROBERT ABBE
OF NEW YORK CITY, ASSOCIATE FELLOW OF THE
COLLEGE OF PHYSICIANS, PHILADELPHIA

DEDICATION

HERE is an ethical foundation stone in the education of a medical man, which is just as essential as book knowledge, and laboratory work. The subtle power of the names which rank high in our profession, makes an impression upon the student's early manhood and unfolding character. A virile force pervades him when he has the high example of character held before him.

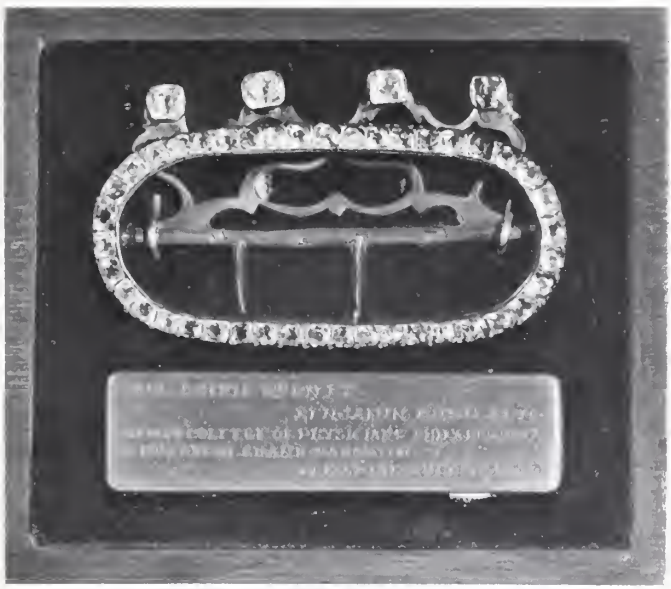
There are some names in our profession, which represent our medical ancestors, as it were, whose very spirit evokes a thrill when we come into actual touch with their belongings, such as no ordinary thing inspires. The actual objects that felt the living touch of the great Pasteur, Jenner, Lister, Rush, Curie, and others of like fame, are more sacred to us, than the cloak of Charlemagne or the cocked hat of Napoleon, for example. It needs not more than one verified article which was the intimate personal property of such human beings to visualize for us the whole character of the owner, and thrill the observer. Who would not glow with interest and sympathy when he sees the instruments used by Lord Lister in the early days of his work and triumph? Who would not travel a thousand miles to see and hear the immortal Pasteur, who put into action those compelling thoughts evolved out of his giant brain? Recently, in this decade, a new light has radiated on science from the Curie laboratory in Paris, which has not only revolutionized the conception and calculation of the forces of nature, but has put into the hands of our profession a weapon, hitherto unsuspected, to help control disease.

BENJAMIN RUSH

[1745-1813]

BENJAMIN RUSH

THE first of the five thrilling mementos in our cabinet is the beautiful watch of Dr. Benjamin Rush. Though there were doctors scarcely less cultivated and devoted, who dignified the early records of American medical service, yet, by common consent, the achievements of Dr. Rush are preeminent.



SHOE BUCKLE WORN BY DR. RUSH [ACTUAL SIZE]

In his day the seal of great deeds was stamped on our country's history by Washington, Adams, Hamilton, Franklin, Lafayette and a score of other noted patriots. Dr. Rush was the intimate friend of these, and of all the savants of his day. His name has come down to our time as, perhaps, the most representative medical man who combined

culture with patriotism, scientific zeal with literary attainments, and religious devotion, and an indomitable courage with unwearied power for work.

This watch is inscribed:

BENJAMIN RUSH
SIGNER OF THE DECLARATION OF INDEPENDENCE
OBIIT 1813
RICHARD RUSH
OB. 1859
BENJAMIN RUSH

It must have been his most highly prized personal possession and his constant companion. Even at this day, after a

THE WATCH OF BENJAMIN RUSH

century and a half, it is a perfect time-keeper. It was his guide in all appointments, punctually kept, and must have been

under the eyes of many great men of the day; perhaps it witnessed the last hours of national heroes.

One feels a thrill when holding it in one's hand, and, as it ticks the seconds, one is drawn back in fancy, to the days when the same sound was heard by ears now deaf. It inspires in the visitor today, emulation of the spirit of its owner.

Another heirloom, a silver shoe buckle, set with brilliants, worn by Dr. Rush, has been given to this cabinet by his great grand-daughter, Catharine Rush Porter (Mrs. J. Biddle Porter). It suggests the gallant and chivalrous coterie of gentlemen who surrounded the first president of our country.

EDWARD JENNER

[1749-1823]

EDWARD JENNER

THE second memento in our cabinet is an inkstand, one of the personal possessions of Edward Jenner. His name is honored by the English-speaking peoples not more than by the civilized world.

This inkstand came into the possession of our loved Weir Mitchell, who used it reverently for years, and presented it to the College of Physicians at his death.

It has a peculiar charm, because it stands for literary effort, besides signalizing the long, weary fight Jenner made by his

THE JENNER INKSTAND

writing and speeches, to obtain recognition for the principle of cowpox vaccination against smallpox.

We realize the power for good of one indomitable will in a life-long fight to overcome prejudice and obstinate antagonism of friend and foe. We think of the enormous uplift of

civilized communities, from India and Russia through Europe to America, when freed from the dread scourge of smallpox.

The lesson of Jenner's life may be epitomized as a serious, thoughtful, conscientious, studious development of one fundamental discovery, a fact that was the kernel of a newly revealed principle in medical practice—vaccine therapy. To him it was revealed truth, and, as such, having the conviction, he gave up the best of his life to defending and spreading it broadcast. On every side he met opposition, which he broke down with indomitable determination.

THIS LOCK OF JENNER'S HAIR, PRESENTED TO THE COLLEGE OF PHYSICIANS BY WILLIAM OSLER, MARCH 1, 1893, BEARS THE FOLLOWING INSCRIPTION ON THE BACK OF THE LOCKET. "THIS HAIR WAS CUT OFF AFTER EDWARD JENNER'S DEATH BY MRS. AUSTIN OF SLONE, HIS NIECE, AND HANDED BY HER TO ME. W. R. AWDRY, JULY 29, 1892." BERKELEY, GLOUCESTERSHIRE, (ENGLAND).

JOSEPH LISTER

[1827-1912]

JOSEPH LISTER

OF Lord Lister we are the fortunate possessors of two valued souvenirs. The first is a small case of surgical instruments used by Lord Lister. It was a part of his equipment, both in Glasgow and in Edinburgh, while he was developing his principles of antiseptic surgery, and, in London, where he was invited to take the chair of surgery in Kings College, but where he found the greatest difficulty in advancing his work.

It is almost impossible to find any article personal to him outside of the Lister Museum, but, through the kindness of

A SMALL CASE OF INSTRUMENTS USED BY JOSEPH LISTER
[NAME PLATE INSCRIBED "J. LISTER"]

Sir Rickman Godlee, a nephew of Lord Lister, and his biographer, we have been able to secure these two veritable articles. The box of surgical instruments has Joseph Lister's name on the cover of the case. They must have been used by him for many years. The instruments are of the make of

LISTER'S ORIGINAL TUBES FOR TESTS OF LACTIC ACID FERMENTATION

"Young" and "Borthwick, Edinburgh," and "Weiss, London."

Many of us have had the gratifying memory of seeing Lister operate, and will be impressed by the conscious sensation, that, perhaps, these very instruments were seen by us in his hands. How near it brings us to the man, who, by patient labor, developed the Listerian principles!

The second souvenir, full of human interest is a group of six small glass tubes, each with a thimble shaped glass cover, fitted in a rack made of four pieces of cut off glass tubing,

wired together by silver wire, which is further twisted, rope fashion, about the tubes to hold them together upright.

This rack is placed on a five inch square plate glass, and covered by a bell glass.

In his earliest private researches he fashioned these with his own hands, to accommodate it to a "hot-box" for sterilizing at 300°, before introducing into the six tubes fresh milk, either sterile, or slightly contaminated, to demonstrate that if dust can be prevented from getting access to the putrescible fluid, infection is impossible.

He used these tubes in his lectures, and for his own satisfaction, to show that milk could be kept sweet till it dried up. All these tubes contain the very remnants of his experimental fluids, some with and some without mould.

These identical tubes are illustrated in his biography (Godlee, p. 267), and in his "Collected writings" p. 302.

LOUIS PASTEUR

[1822-1895]

LOUIS PASTEUR

THE fourth souvenir is of the great Pasteur. By singular good fortune we have something characteristic. Precious to the hearts of the French people is everything connected with the life of Pasteur. This souvenir was generously given to the College of Physicians of Philadelphia, by Calmette, of the Pasteur Institute, formerly assistant to Pasteur, and transmitted by the hand of Dr. W. W. Keen.

It would be difficult to acquire anything more precious than this model of a crystal, which Pasteur made, labelled, and mounted with his own hands, to use before his sceptical audiences in demonstrating the nature of crystals from wine fermentation. The chemistry of this had been a stumbling block to scientists. No explanation of why one of two tartrate crystals, showing identical analysis, turned polarized light to the right, while the other turned it to the left.

Pasteur demonstrated his views with this model, in strenuous debate with his adversaries in 1862. This research and demonstration won him added renown as a chemist, and was the key to his future work. He unravelled the mystery of the cause of putrefaction and fermentation, and, in his own words, speaking to the Emperor, he said, "all my ambition is to arrive at the knowledge of the causes of putrid and contagious diseases" (1863).

Two years later, Lister first read Pasteur's writings proving that putrefaction was of germ origin, and made his first demonstration of the efficiency of carbolic acid in surgery (March, 1865). He gives all credit to Pasteur for his great

discovery. The world is indebted to Lister, however, for his undaunted bravery, his pioneer advocacy and application of this principle to surgery in the face of universal opposition.

In that year Pasteur began an intensive study of the cause of the decadent vintages of France. The outcome of this was a proof that deterioration of wine with deposition of tartrates, was due to a low-grade bacterial fermentation, which could be arrested permanently by heating wines sufficiently to kill bacteria, but not hot enough to alter the wine.

MODEL OF A TARTRATE CRYSTAL MADE AND USED BY PASTEUR. HEIGHT 8 INCHES

One after another followed Pasteur's intensive researches into difficult problems of national importance. He was first called upon to solve the mystery of the silkworm disease which was ruining the silk industry of France.

Pasteur solved the problem, found a remedy, and restored an industry. He then attacked the disease anthrax, which was ravaging the herds of cattle and destroying the leather industry. He demonstrated again the bacillus of anthrax, and furnished the cure for the disease. Hog cholera and chicken cholera then claimed his attention. Again he put his finger on the weak spot, and announced a cure. Finally the triumphant conquest of hydrophobia was

proclaimed. Though the bacterium which causes hydrophobia has not yet been discovered, its existence is assumed, and, based on that assumption, his remedy—the only successful remedy—has been applied.

His researches and proofs banished forever the claims of most of the scientists of his time, in favor of spontaneous generation of life.

MME. MARIE CURIE

MME. MARIE CURIE

THE fifth memento is an instrument of precision, devised by Prof. Pierre Curie, at the Sorbonne in Paris, and used by him and by Mme. Curie. It was employed to determine the strength of electron discharge from radium, which Mme. Curie had just discovered by an ultra-scientific piece of detective work, little less than a romance.

This instrument illustrates, also, another discovery which Prof. Curie was elaborating before that time, namely, the fact that crystalline substances, when compressed or expanded, emit electrons, due to the strain put upon them. In this instrument there is a long slice of a quartz crystal, held by one end and weighted at the other. An electroscope, placed opposite the face of the crystal records the discharge of electrons, in exact proportion to the weight put upon it. This is known as the "Quartz-piezo-electric" apparatus. This very instrument was used by the discoverer of radium in her early work, and is presented to the College of Physicians by Mme. Curie in response to an appeal for a souvenir of her work. It may almost be said to be the first instrument ever made actually to weigh, as it were, the smallest divisions of the atom, the electrons. To view this instrument is to be enthralled by the spirit of research which its personality inspires.

Translation* of Mme. Curie's Description of the Apparatus She Gave to the College of Physicians, Philadelphia

In this apparatus is utilized the property which crystals of quartz possess of acquiring an electric polarization following a deformation.

This phenomenon of "Piezo electricity" thus manifested in quartz was discovered by Pierre and Jacques Curie and

MME. CURIE SEATED BEFORE A MODIFIED QUARTZ-PIEZO ELECTROMETER (1921)

recognized not only in quartz but generally in all crystals not having a center of symmetry.

The lamina of quartz used in this apparatus has a thickness of about one-half millimeter. Its surface is perpendicular to one of the three binary axes of the crystal. It is a rectangle whose shorter side (about fifteen millimeters) is parallel to the third optic axis, so that the longer side (six to ten centimeters) is perpendicular to this axis. The two ends of the

*Translation by Prof. A. W. Goodspeed

lamina are fixed in clamps of which one is used to suspend the lamina while the lower clamp carries a pan in which weights can be placed. When the pan is loaded there is exerted on the crystal a tension in a direction at once perpendicular to the third axis and to the second axis. This tension has the effect of setting free on the two faces of the lamina quantities of electricity equal and opposite in sign which it is the purpose to collect. For this the two faces of the lamina are covered with tinfoil or a deposit of silver. These conducting armatures are insulated by grooves placed opposite each other at the ends of the lamina. One of the armatures is connected with the earth while the other is insulated. When a weight is placed on the pan a definite quantity of electricity and of a given sign is set free on the insulated armature. This quantity "q" is proportional to the stretching weight F; it is expressed by the formula $q = \frac{klF}{e}$ where l is the length of the lamina, e the thickness of it, and k the piezo electric modulus for quartz.

When the weight F is lifted the quantity of electricity set free on the insulated armature is equal and of opposite sign to that which is obtained in putting the weight on.

Such a lamina which is really a very constant electric standard may serve to measure currents of feeble intensity such as those which are produced in ionization chambers by radioactive substances. For this purpose the insulated armature is joined to one of the quadrants of an electrometer the other one being grounded. The insulated quadrant is also attached to the source of electricity which produces the current that is to be measured (for example to the insulated electrode of the ionization chamber).

One can compensate very exactly the current to be measured and keep the electrometer at zero by lifting gradually a weight F put on the pan. The current strength i is given by the formula $i = \frac{q}{t}$, where t is the time measured by a chronometer during which the current i has been compensated by the raising of the weight F. Thus this current i can be known in absolute value with great precision.

This way of measuring was used continuously by Pierre and Jacques Curie in their researches on feebly conducting bodies. I used it afterwards in my researches on the radiation from compounds of uranium and of several other substances. Later we have constantly used it, Pierre Curie and I, in the measurement of radioactivity made necessary by the new method of chemical analysis which has served us in the separation of the new radioactive substances, radium and polonium.

It can be concluded then that this method of measurement has rendered very great service.

The piezo-electric quartz apparatus is still continuously used in the Curie laboratory. It is employed by the investigators and by the students who easily learn its use. The magnitude of the currents which can be thereby measured varies within wide limits.

The apparatus which I offered to the Cabinet of the College of Physicians of Philadelphia is one of the first models made. It is one of two which were used by us in our associated work during the first years of our researches on radioactivity.

Venerable But Vigorous: The College of Physicians[1]

By LUCINDA P. ROSE[2]

THE large, red-brick building on 22nd Street, just below Market, holds within its walls a profusion of wonderments, including a museum, a library, the meeting hall for a society that has been in existence since 1787, and oil paintings by Gilbert Stuart, Eakins and Sargent. But few Philadelphians outside the medical and pharmaceutical professions have visited The College of Physicians of Philadelphia or know anything about the wealth of interesting material housed within its building.

And without, for even the garden beside the building is not an ordinary one, but a medicinal herb garden (Figure 1). By taking a walk along its paths, you find out that Mother of Thyme is a cure for nightmares, Rosemary for asthma, and should you want to induce perspiration, try a bit of Lemon Balm. Responsible for maintaining this plot of edifying greenery is the Philadelphia Unit of the Herb Society of America. The garden is open to the public—they ask only that you leave it as you find it.

The Mütter Museum, located within the College building, is a place you may want to leave the minute you find it. However, with a strong stomach and strong willpower, you can spend several hours in the museum and still not take it all in. The executive director of the College, Dr. W. Wallace Dyer, characterizes the museum as being "unusual in its variety." This seems like an understatement. Along with the to-be-expected collections of pickled foeti, skeletons and skulls are collections of eyeglasses, shoes and thermometers. More grisly items include shrunken heads and a wallet made of human skin (given by an anonymous donor).

If you are a celebrity seeker, you may want to look at a piece of John Wilkes Booth's thorax, the bladder calculi removed from Chief Justice John Marshall, or the plaster cast of Chang and Eng Bunker, the famous Siamese twins. Then there is the upper right jaw of President Cleveland, complete with several teeth, or, for the ladies, Florence Nightingale's sewing-kit.

One thing you're not likely to miss in the museum's helter-skelter is the skeleton of a giant, seven feet six inches tall and simply labeled as "a young man from Kentucky." Equally eye-stopping is the body of the "petrified lad"—the adipocere body of a Mrs. Ellenbogen, which is casually laid out in the open on a slab in one of the rooms and more awesome than a mummy in the University Museum.

Although most of the museum is concentrated in five or six rooms, other memorabilia are placed in cases throughout the building. Particularly notable is the collection in the second floor hallway which includes Benjamin Rush's gold watch (reputedly still in working condition); an inkstand and lock of hair belonging to Edward Jenner (the discoverer of vaccination); an instrument used by Pierre Curie to study radioactivity shortly after its discovery, called the "quartz-piezo-electric" and donated to the College by Marie Curie; Joseph Lister's carbolic acid spray from his early days of antiseptic surgery; and a model of tartar crystal made by Louis Pasteur.

[1] This article appeared in *Delaware Valley Calendar* in September 1968. It is reprinted here with permission of the Editor-Publisher at the request of the Council of The College of Physicians.

[2] A free lance writer.

FIG. 1. The herb garden of The College of Physicians.

Of these famous men, Benjamin Rush, signer of the Declaration of Independence, was the one most intimately associated with The College of Physicians, being, in fact, one of its founders. Other founders included John Morgan, William Shippen, Samuel Duffield, John Jones—all famous figures in the early Philadelphia medical scene.

The College was founded not as a college in the sense of an educational institution, but rather as a "collegium"—a society of colleagues. Its prototype was the Royal College of Physicians of London. Fellows of the College were to be elected "without any regard to Diversity of Nation or Religion" according to the words of the founders.

During its early years the College was often called upon to give advice on public health matters, especially during the epidemics of yellow fever at the turn of the 18th Century. The College still maintains

an active interest in public health. For example, recent meetings have included subjects such as air pollution and hallucinogenic drugs.

Now numbering almost 1100 Fellows, the College provides a common meeting ground for all the medical schools, hospitals and leaders in the medical profession in the Philadelphia area. Members include women as well as men. The endowed monthly lectures are usually published in the College's quarterly journal, *The Transactions and Studies of The College of Physicians of Philadelphia,* the first issue of which was printed in July 1793.

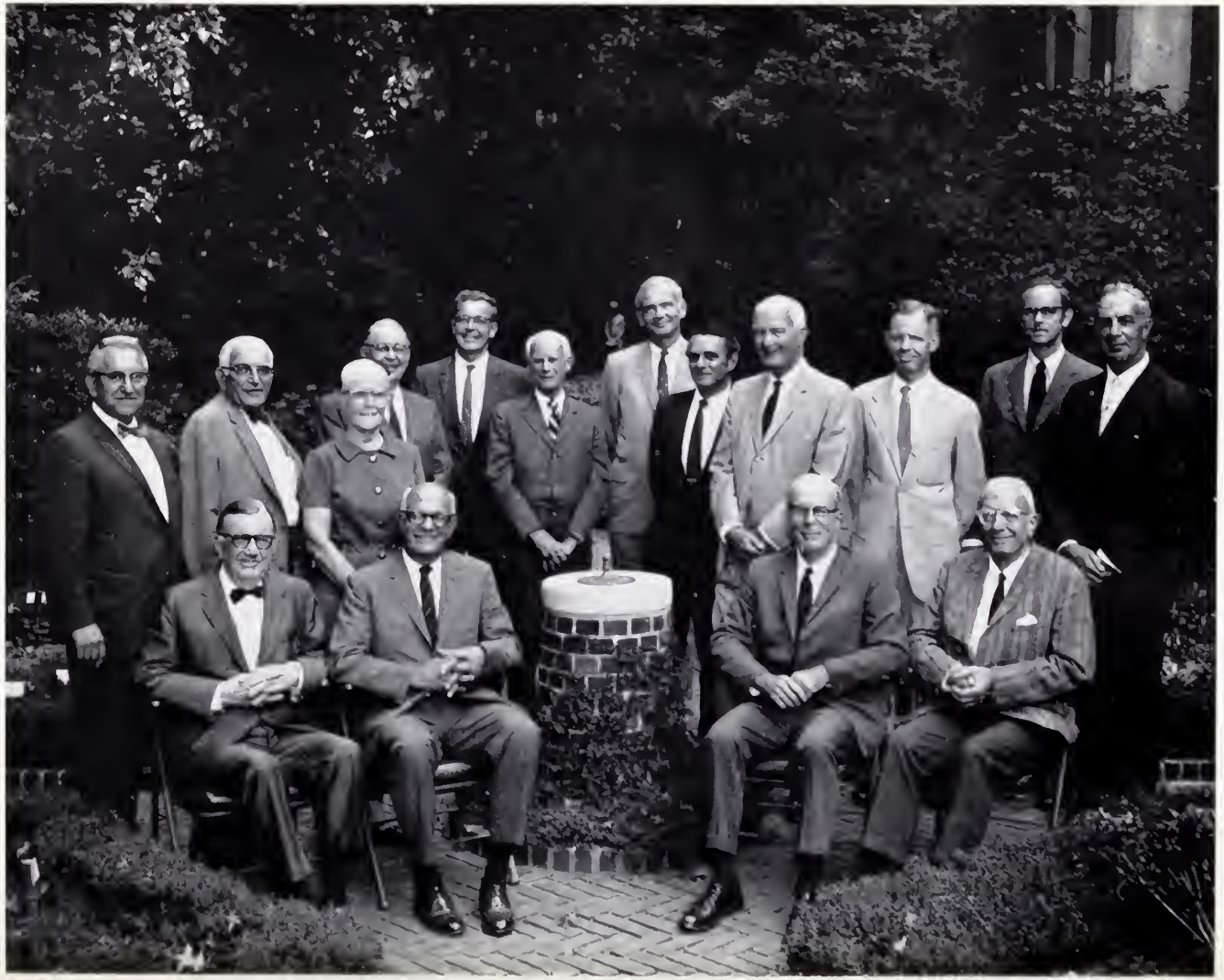
Perhaps most important of all to College Fellows, as well as to the area's medical profession at large, is the extensive medical library maintained by the College. The library contains almost a quarter million volumes and subscribes to 3200 medical journals in connection with which it provides scanning, indexing, abstracting and translating services. It also has a Rare Book Department, including 416 incunabula (books printed before 1500) and eight medieval manuscripts.

Started in 1788 with the donation of twenty-four volumes by John Morgan, the library now ranks as the third or fourth largest of its kind in the country. It is used widely by medical students, historians, lawyers, advertising firms, pharmaceutical and other industrial firms, and many others who have occasion to do medical research. It has been named a regional medical library, related to the National Library of Medicine in Washington.

Lining the walls of library, hallway and meeting room are the over sixty paintings in the College collection. Most of these are portraits of Philadelphia physicians who were Fellows of the College. Some of the artists are well-known, including Thomas Eakins, John Singer Sargent, Thomas Sully, Gilbert Stuart and Rembrandt Peale.

Many of these portraits are hung in Mitchell Hall, the large, handsome, wood-panelled room in which the monthly meetings of the College are held. One Fellow has described these meetings as the "stuffiest" he has ever seen; another describes them as "prestigious." These impressions may be fostered in part by the fact that those who preside over the meetings wear academic robes. In any case, the meetings are considerably enlivened by the erudite witticisms of the current President, Dr. Francis C. Wood, former chairman of the Department of Medicine of the University of Pennsylvania.

The College of Physicians is a venerable, but still very vigorous institution, and well-worth a visit from the medical-information seeker, the art student, the curiosity seeker or herb-garden fancier.



The Council of The College of Physicians of Philadelphia, 1969

(Left to right) *Front Row:* T. Grier Miller, George I. Blumstein, Francis C. Wood, George A. Hahn *Second Row:* Samuel X Radbill, David A. Cooper, Elizabeth Kirk Rose, Donald M. Pillsbury, Gordon N. French, Esmond R. Long, John L. McClenahan, Alfred M. Bongiovanni, John H. Gibbon, Jr., Fred B. Rogers, Robert Erwin Jones, Paul Nemir, Jr. (Absent from photograph) Leroy E. Burney, Thomas M. Durant, Kendall A. Elsom, Peter A. Herbut, William F. T. Kellow, Richard A. Kern, Robert S. Pressman, Jonathan E. Rhoads, Truman G. Schnabel, Katharine R. Sturgis.

The Staff of The College of Physicians, 1969

(Left to right) *Front Row:* Mrs. Helen M. Reaney, Mrs. Ella N. Wade, Miss Alberta D. Berton, Mrs. Beatrice F. Davis, Elliott H. Morse, Miss Olga E. Lang, Mrs. Lisabeth M. Holloway, Walton Brooks McDaniel, 2d. *Second Row:* Miss Josefa Sereda, Miss Thea Fischer, Gilbert Bey, Miss Julianne Gable, Mrs. Pearl Stark, Mrs. Catherine Ledwell, Mrs. Juneann Lauderbach, Mrs. Marybeth Leary, Alfred G. Lisi, Miss Mildred Gray, Miss Yoshi Nakayama. *Third Row:* W. Wallace Dyer, Mrs. Elizabeth Wright, Mrs. Donna Parks, Mrs. Ann Schor, Mrs. Sarah Caspari, Mrs. Kathryn Miragliotta, Miss Evelyn Huber, Dennis Dougherty. *Fourth Row:* Miss Linda S. Frantz, Miss Linda Justice, Mrs. Eleanor Taylor, Miss E. Noami Frazer. *Fifth Row:* Miss Anne McGinnis, Miss Dagmar Nemecek, Mrs. Judy Barnes. *Sixth Row:* Miss Valerie Suber, Mrs. Rhea Brown, Mrs. Christine Balonis, Mrs. Michele Winters. *Seventh Row:* Miss Carol C. Spencer, Mark Mattson, A. Male. *Eighth Row:* Miss Florence Fritz, Miss Grace Rupertus, Miss Andrea L. Jancsura, Miss Elizabeth Bertram. *Ninth Row:* Timothy Phillips, Mrs. Lynn Langdon, Mrs. Carol Stills. *Tenth Row:* Miss Margot van Rossum, Miss Lee J. Tanen, Miss Jean Carr, Carmine Salvato. *Eleventh Row:* Russell Campbell, James Bolton, James M. Gavin, Theodore Kolodziejski.

New Fellows of The College of Physicians of Philadelphia

Elected 1969

Name	*Place/Date of Birth*	*Medical School*	*Present Position*
1. Bannett, Aaron D.	Phila., Pa. 7-12-23	Jefferson '46	Assoc., Surgery & Chief Consultant, Vascular Surgery, Einstein (N); & Head, Organ Transplantation Unit, Einstein (N).
2. Baronofsky, Ivan D.	New York, N. Y. 12-12-17	Marquette U. '43	Chairman, Dept. Surgery, Hahnemann; Research Assoc. Scripps Clinic and Research Foundation.
3. Belmont, Herman S.	Phila., Pa. 3-13-20	U. of Pa. '43	Prof. & Head, Section on Child Psychiatry; Member Advisory Committee on Child Planning to State of Pa. Commissioner on Mental Health.
4. Birtwell, William M.	Ridley Park, Pa. 9-19-35	Temple U. '60	Section, Rheumatology & Asst. Prof. Med., Temple.
5. Blocklyn, Maurice J.	Paris, France 10-14-12	U. of Pa. '37	President, Med. Staff, Crozer-Chester Hosp., Dept. Radiology, Crozer-Chester and Taylor Hosps.
6. Bryant, Winston M. Jr.	Brooklyn, N. Y. 7-9-29	Meharry '60	Surgeon, Ophthal., Mercy-Douglass; Instr., Ophthal. Temple; Asst. Surgeon, Wills; Ophthal., St. Christopher's.
7. Buchheit, William	Donara, Pa. 10-14-33	Temple U. '60	Instr., Neurosurgery, Temple; Asst. Attending Neurosurgery, St. Christopher's.
8. Chesnick, Reuben B.	Haddonfield, N. J. 1-15-09	Jefferson '36	Assoc. Radiologist, VA Hosp.; Radiologist, Camden Cyt. Gen & Camden Cty. Chest & Camden Cty. Psychiatric Hosps.
9. Cohen, Erwin A.	Phila., Pa. 4-8-25	U. of Pa. '48	Clinical Instr., Temple; Adjunct, Einstein (N); Staff Surgeon at Rolling Hill, Oxford and Kennedy Memorial Hospitals.
10. Davidson, Jay H.	Phila., Pa. 4-12-18	Temple U. '43	Assoc., Gastroenterology, Einstein (N); Director to 1968 Med. Education at St. Luke's & Children's.
11. Denbo, Elic A.	Camden, N. J. 10-3-08	Jefferson '33	Chief Neuropsychiatrist, Cooper Hosp.; Chief, Neurology, W. Jersey Hosp.; Assoc., Neurology, Grad. Hosp.; Assoc., Psychiatry, Phila. Psychiatric Center; Assoc., Neurology, U. of Pa. Grad. Sch. Med. & Jefferson Med.
12. Desiderio, Vincent C.	Phila., Pa. 7-4-26	Hahnemann '53	Sr. Clin. Instr., Gastroenterology, Hahnemann; Assoc., Int. Med., St. Agnes.
13. Dolphin, John M.	Mahanoy City, Pa. 11-28-23	Hahnemann '47	Staff & Assoc. Prof., Pathology, Hahnemann.
14. Dzwonczyk, John, Jr.	Dunmore, Pa. 10-22-27	Hahnemann '54	Instr., Surgery, Hahnemann; Assoc., Surgery, Fitzgerald Mercy; Attending in Surgery, Misericordia.

Name	*Place/Date of Birth*	*Medical School*	*Present Position*
15. Ganz, Michael A.	Hartford, Conn. 10-20-34	U. of Ottawa '60	Staff Psychiatrist, Sidney Hillman and Gloucester Cty. Psychiatric Centers.
16. Gardiner, George C.	Bridgeport, Conn. 8-17-35	Tufts U. '61	Instr. Med., U. of Pa. Med; Asst. Attending Physician, PGH; Jr. Attending Physician and Chief, Inhalation Pulmonary Function, Mercy-Douglass Hosp.
17. Gehring, David A.	Bryn Mawr, Pa. 12-6-30	U. of Pittsburgh '56	Attending, Int. Med., Underwood Memorial (Woodbury); Consultant in Cardiology, Elmer Community Hosp. (N. J.); Staff, Edgewood Div., W. Jersey Hosp. (Berlin, N. J.).
18. Gellhorn, Alfred E.	St. Louis, Mo. 6-4-13	Washington U. (St. Louis) '37	Dean and Director and Prof., Medicine & Pharmacology, U. of P. Med.
19. Goldman, Leonard	N. J. 3-4-30	Univ. Western Ontario '55	Asst. Prof., Surgery, Temple
20. Haase, Gunther R.	Chemnitz, Germany 9-30-24	'49-Ludwig-Maximilians Universtat, Munich	Sr. Attending Physician, PGH; Dept. Neurology, Temple.
21. Hanson, Stephen M. (Non-Resident)	Los Angeles, Calif. 8-18-24	Marquette U. '48	Pathologist, Coatesville Hosp.; Instr., Pathology, Temple.
22. Harrell, George T., Jr. (Non-Resident)	Washington, D. C. 6-16-08	Duke U. '36	Dean, and Prof. Med., Pa. State U. and Dean, Hershey Med.
23. Hollender, Marc	Chicago, Ill. 12-19-16	U. Illinois '41	Prof., Psychiatry, U. of Pa. Med.
24. Kain, Thomas M., Jr.	Camden, N. J. 2-16-17	Jefferson '43	Chief, Dept. Med. & Assoc., Cardiology, Cooper Hosp.; Asst. Prof. Clin. Med., Jefferson; Attending Staff Physician, Our Lady of Lourdes.
25. Kissick, William L.	Detroit, Mich. 7-29-32	Yale '57	Prof. & Chrmn., Dept. Community Med., U. of Pa. Med.; Appalachian Regional Commission Health Advisory Committee; Sloan Inst., Cornell U. faculty; World Health O., advisor; Consultant, Social Rehabilitation Service (MEDICAID).
26. Kitchen, James G., II (Non-Resident)	Phila., Pa. 5-6-15	U. of Pa. '42	Assoc., Staff, Monroe Cty. Gen. Hosp. (Stroudsburg)
27. Klinghoffer, Leonard	Phila., Pa. 11-30-27	Jefferson '53	Assoc. Prof., Orthopedic Surgery, U. of Pa.; Adjunct Prof., Orthopedic Surgery, (N) Einstein.
28. Koblenzer, Peter J.	Munich, Germany 12-6-22	London '51	Assoc., Pediatrics & Derm., U. of Pa. Grad. Sch. Med.; Assoc., Physician, Children's & Rancocas Valley Hospitals; Assoc. Physician, Burlington Cty. Memorial Hosp.; Consultant, Pediatrics, Pa. Hosp.

Name	*Place/Date of Birth*	*Medical School*	*Present Position*
29. Lentz, John W.	Phila., Pa. 3-2-11	U. of Pa. '37	Chief, Dermatology, Lankenau; Asst. Prof. Dermatology, Jefferson Med.
30. Leto, Francesco	Catanzaro, Italy 7-20-25	U. of Naples '55	Adjunct Prof., Int. Med., Einstein (N); Assoc. Prof., Int. Med., St. Agnes.
31. Lightfoot, William P.	Pittsburgh, Pa. 9-12-20	Howard '46	Assoc. Prof., Surgery, Temple
32. Mallin, Aaron W.	Phila., Pa. 10-16-13	U. of Pa. '39	Assoc., Neurology, U. of Pa. Med.; Instr., Neur. & Psych., U. of P. Grad. Sch. Med.; Chief, Neuropsychiatry, Mercy-Douglass & Amer. Oncologic Hosps.; Neurologist, Univ. Hosp. at PGH & Einstein; Neuropsychiatrist, Grad. Hosp; Psych., Phila. Psych. Cntr. & Northwestern Mental Health Center.
33. Mansure, Frank T.	Lansdowne, Pa. 7-24-26	U. of Pa. '53	Out-patient Physician, Presbyterian-U. of Pa. Med. Cntr.
34. Mansure, Patricia R.	Phila., Pa. 10-22-29	Woman's '55	Asst. Medical Director, Fidelity Mutual Life Insurance Co.
35. Marks, Gerald	Brooklyn, N. Y. 4-14-25	Jefferson '49	Asst. Surgeon & Instr., Surgery, Jefferson Med.; Asst. Chief of Surgery, PGH; Consultant, Proctology, Coatesville VA Hosp.
36. Morris, Robert G., Jr.	Winston-Salem, N. C. 4-9-24	Howard '48	Director, Radiology, Mercy-Douglass; Acting Med. Director, Mercy-Douglass.
37. Myers, Eugene N.	Phila., Pa. 11-27-33	Temple U. '60	Asst. Prof., Otolaryngology, U. of Pa. Med.; Attending in Oto., Presbyterian-U. of Pa. Med. Cntr.
38. Rawnsley, H. M.	Long Branch, N. J. 11-20-25	U. of Pa. '52	Acting Dir., Clinical Research, U. of Pa. Med.; Member, Wm. Pepper Lab.; Consultant, Clinical Path., Phila. Naval & VA Hosps.; Assoc. Prof., Clin. Path., U. of Pa. Med.
39. Relman, Arnold S.	New York, N. Y. 6-17-23	Columbia '46	Prof. and Chairman, Dept. Med. U. of Pa. Med.; Chief of Med. Service, U. of Pa. Hosp.
40. Robinson, Nathaniel M.	St. Matthews, S. C. 7-20-25	Marquette '54	Med. Consultant, Psychiatry, PGH; Director, Med. Clinics & Sr. Attending Physician, Mercy-Druglass Hosp.
41. Rodgers, Robert A.,	E. Liverpool, Ohio 4-17-25	Hahnemann	Asst. Obstetrician-Gynecologist, Pa. Hosp.; Assoc., Obstet.-Gyn., Underwood Memorial Hosp. (Woodbury).
42. Roediger, Paul M.	Princeton, N. J. 6-30-32	Jefferson '58	Director, Med. Education and Asst. to Chief of Staff, Abington.
43. Rosato, Francis E.	Phila., Pa. 6-2-34	Hahnemann '59	Assoc., Surgery, U. of Pa. Hosp; Consultant in Surgery, VA; Attending in Surgery, PGH.

Name	*Place/Date of Birth*	*Medical School*	*Present Position*
44. Rowland, Lewis P.	New York, N. Y. 8-3-25	Yale '48	Prof. & Chairman, Neurology, U. of Pa. Med.; Attending Neurologist, Columbia-Presbyterian Med. Center
45. Schaedler, Russell W. W.	Hatfield, Pa. 12-17-27	Jefferson '53	Head, Dept. Microbiology & Prof. Microbiology, Jefferson Med.
46 Sewell, Edward M.	Phila., Pa. 5-21-23	U. of Pa. '47	Sr. Physician & Chief, Chest Diseases, Children's; Asst. Prof., Pediatrics, U. of Pa. Med.
47. Silberberg, Donald H.	Washington, D. C. 3-2-34	U. of Michigan '58	Assoc. Prof., Neurology, U. of Pa. Med.; Consultant, Children's & VA hosps.; Consulting Neurosurgeon at Doylestown & Phoenixville Hosps.
48. Skversky, Norman J.	Phila., Pa. 7-7-15	Jefferson '39	Attending Physician, Peripheral Vascular Section, Einstein (N) & Moss Rehabilitation; Clinical Asst. Prof. of Med., Temple; Consultant, Phila. Geriatric Center
49. Stewart, W. Wayne	Dayton, Ohio 10-31-17	Hahnemann '43	Research Fellow, Lankenau; Consultant, Industrial Med. Chester-Crozer; Staff, Hahnemann.
50. Taylor, W. J. Russell	Winnipeg, Manitoba, Canada 5-6-30	U. of Manitoba '56	Assoc. Prof., Hahnemann; Director, Clinical Pharmacology-Toxicology, PGH.
51. Waugh, Baseom S.	Glade Springs, Va. 12-9-08	Meharry '35	Assoc., Clinical Med., Jefferson; Director, Stroke Rehabilitation Cooper Hosp.
52. Weibel, Robert E.	Scranton, Pa. 12-9-29	U. of Pa. '55	Assoc. Pediatrics, U. of Pa. Med.; Pediatrician, Bryn Mawr & Lankenau; Assoc. Physician, Children's Hosp.
53. Whitman, Mark A.	Phila., Pa. 6-4-22	Hahnemann '47	Chief of Service, Germantown Hosp.; Attending, Pediatrics, Chestnut Hill; Sr. Instr., Pediatrics, Hahnemann Hosp.
54. Williams, James R.	Bryn Mawr, Pa. 4-21-24	Meharry '55	Director of Pathology, Mercy-Douglass Hosp.
55. Wouters, Freerk W.	Atlanta, Georgia 9-23-28	Emory '53	Assoc. Clinical Psychiatrist, Jefferson; Staff Psychiatrist, Friends Hosp.; Consultant, St. Vincent's Hosp.
56. Yanoff, Myron	Phila., Pa. 12-21-36	U. of Pa. '61	Assoc. Ophthalmology, U. of Pa.; Asst. Ophthal., Children's & VA Hospitals.

Memoir of Delazon Swift Bostwick 1893–1968*

By HERBERT J. DIETRICH, JR., M.D.

DELAZON Swift Bostwick, elected a Fellow of The College of Physicians of Philadelphia in 1936, was born on November 30, 1893, in Sheridan, Wyoming, the son of a Congregational minister. He died November 27, 1968, a few days before his 75th birthday, at Methodist Hospital, Philadelphia, with which institution he was closely associated throughout his entire professional life, which spanned 47 years.

Following his graduation in 1921 from the School of Medicine of the University of Pennsylvania, Dr. Bostwick interned at Methodist Hospital where he then served four years as chief resident physician and surgeon. He thus acquired a broad knowledge of general medicine and surgery, which was always apparent in the high quality of his later work in the specialty of otolaryngology. From 1926 onward, he was continuously associated with the Department of Otolaryngology, through successive staff appointments to that of Chief of the Department; he had the rank of Emeritus Chief at the time of his death. He was also Associate in Otolaryngology at the Hospital of the University of Pennsylvania and School of Medicine.

Dr. Bostwick had tremendous respect and admiration for his seniors, and he counted it a high privilege, in the best Hippocratic tradition of medicine in this city, to work under such stalwarts as the late Dr. Walter Roberts, one of the very top otolaryngologists of his day—or any day for that matter. Equally, his personal relationships with his peers, residents, nurses, interns and administrators were characterized by sincere respect and unfailing kindness. In turn, they all became his devoted friends. In memorializing Dr. Bostwick, the *Methodist Hospital News* said of him: "Dr. Bostwick was an outstanding physician and will be remembered by many for his professional accomplishments. But at Methodist Hospital he will be remembered above all as a gentleman—for he was in truth a gentle man. His gracious manner and unfailing courtesy will be greatly missed in the institution he served so well."

In addition to certification by the American Board of Otolaryngology (1932), Dr. Bostwick was certified by the American Board of Preventive Medicine (1953) in the specialty of Aviation Medicine. He was issued a private pilot's license in 1931. He piloted his own plane and had logged over 4000 hours of flying time.

His skill as an otolaryngologist, coupled with his love of aviation, enabled him to contribute measurably to the development of aerospace medicine. Indeed, he played a major role in the evolution of this specialty, serving at various times as a faculty member of Federal Aviation Medical Seminars where he presented "Otolaryngological Aspects of Aviation Medicine." He was one-time President of the Civil Aviation Medical Association; he was Vice President and member of the Executive Council of the Aerospace Medical Association, chairing and serving on numerous committees throughout the years and receiving in 1964 the Association's award for outstanding contribution to the art and science of aviation medicine in its application to the general field of aviation. In 30 years, he missed only one national meeting of the Aerospace Medical Association.

He was internationally known in this

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

field, with friends among flying physicians in every country of the world. In 1959, he attended the International Congress of Aviation Medicine in Rome and was a delegate to the Flight Safety Foundation seminar in Nice.

In Philadelphia, Dr. Bostwick was once featured on the TV Cavalcade of Sports program as the winner of the Wings Field Regatta, an air race scored on speed, efficiency and navigation.

In addition to numerous societies having to do with Aviation Medicine, Dr. Bostwick was a life member of the American Medical Association, the Pennsylvania State and Philadelphia County Medical Societies, the American College of Surgeons. He was also a member of the Union League of Philadelphia and the Merion Golf Club.

Dr. Bostwick, having married rather late, was richly blessed in his wife, Hannah Stretch Bostwick, who fully shared all of his interests in life. She was at one time his nurse anesthetist, equally devoted to the welfare of the patients. She later became his enthusiastic companion of fireside, skyways and fairways.

Delazon Bostwick, as a physician who figuratively always had both feet on the ground and as a sportsman who soared above terrestrial cares, enjoyed it all. He would have agreed with Robert Louis Stevenson, who said in *The Lamplighters:* "To miss the joy is to miss all."

Memoir of Theodore Cianfrani 1899–1968*

By JOSEPH H. ZEIGERMAN, M.D.

THEODORE Cianfrani excelled in both art and medicine. It was Erwin F. Faber of the University of Pennsylvania who in 1951 encouraged him to paint in oil. Since that time, he worked in one media or another whenever he had time to spare from his busy practice. Ted had a vast knowledge of art. He read many books on the subject and knew the fundamentals of painting as well as the artistic aspect. He found it relaxing and fascinating. He has done medical illustrations, pen and ink drawings, oils, etchings, water colors and a handful of pencil sketches. He did all of them well.

He studied art for a brief period of time, etching with the late Earl Horter, oils with the late Paul Martel, a life class with Herr Heymann in Munich, Germany, a life class in oils with Joseph J. Coppolino and portrait painting with Caesare A. Ricciardi.

Examples of his work hanging in the School of Medicine of the University of Pennsylvania are portraits of Dr. Harry Paul Schenck and Dr. Francis Grant. Portraits hanging at Graduate Hospital are of Dr. William Bates, Dr. Edmund Spaeth, Dr. Robert A. Kimbrough and Anita Porter Clothier. He painted a portrait of William J. Clothier, Sr., which is hanging in the Hunt Club. He also painted portraits of Dr. William R. Nicholson and Dr. Barton Cooke Hirst.

Theodore Cianfrani was born in Philadelphia on April 12, 1899 and died on November 3, 1968. His parents were Domenico Cianfrani and Emilia Di Giacoma Cianfrani. He was married in 1936 to Ethel Emoline Haas. He attended the University of Pennsylvania (1917–9) and subsequently the School of Medicine of the University of Pennsylvania (1919–23). He took his internship at Misrecordia Hospital (1923–4) and was assistant in Gynecology and Pathology at Howard Hospital (1924–8). He was Assistant in Surgery and Instructor in Surgical Anatomy at Woman's Medical College Hospital (1924–8). He took post-graduate work at Doderlein Clinic, Munich, Germany (1932), and became connected with the Graduate Hospital and Graduate School of Medicine, University of Pennsylvania, where he taught Gynecology from 1928–66 and retired as Associate Professor in Gynecology and Obstetrics.

He was Chief and Director of Gynecology at St. Agnes Hospital and Clinical Professor of Gynecology at Hahnemann Medical School and Hospital. He was an Associate in Obstetrics and Gynecology at Pennsylvania Hospital.

He was a Diplomate of the American Board of Obstetrics and Gynecology, Fellow of the American College of Surgeons, Fellow of the American College of Physicians, Fellow of the College of Obstetrics and Gynecology, member of the Philadelphia County Medical Society (serving on the Board of Maternal Mortality for many years), and a member of the American Medical Association and Pennsylvania Medical Society. He was the author of *A Short History of Obstetrics and Gynecology* and wrote 15 papers in obstetrics and gynecology. Some of his better known articles are Neoplasms in Apparently Normal Ovaries, Panhysterectomy without Vaginal Cleansing, and Endometrial Carcinoma after Bilateral Oophorectomy.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of Walter S. Cornell 1877–1969[1]

By HERBERT W. CORNELL[2]

DR. Walter S. Cornell, for 31 years Director of Medical Services for the Philadelphia schools and later the (unsalaried) head of the Philadelphia Public School Health Fund, died at the age of 92, on March 21, 1969, in the Presbyterian Hospital of Philadelphia after an illness of a few weeks. He will be especially remembered for his work in the field of public health and school hygiene.

Walter S. Cornell was born in Philadelphia on January 3, 1877, and was graduated from the then recently founded Northeast High School in 1893. At the time of his death, he was the sole surviving member of the school's first graduating class. He entered the University of Pennsylvania, receiving the degree of Bachelor of Science in 1897 when he had the memorable experience of being on the same platform as his father, Watson Cornell, a Philadelphia school principal, who received a Ph.D. degree in that same ceremony, and who, at the time of his death in 1902, was State Director for Pennsylvania of the National Educational Association.

Walter S. Cornell continued at the University of Pennsylvania, entering the School of Medicine in 1897, receiving his M.D. degree in 1901 and also a degree of Doctor of Public Health in 1922. While at the University, he had the distinction of being elected to membership in Phi Beta Kappa, to Sigma Xi, and to Alpha Mu Pi Omega (Medical). His medical internship was at the Presbyterian Hospital of Philadelphia.

[1] Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

[2] Mr. Cornell is the brother of Walter S. Cornell, M.D. His address is 5939 Drexel Road, Philadelphia, Pennsylvania 19131.

Following his internship, he became a Lecturer in Anatomy and later in Hygiene at the University of Pennsylvania, and at the same time assisted on a part time basis as a school inspector in the city's Health Department. In 1912, the school medical work was transferred from the Health Department to a new department in the office of the Board of Education, and he was chosen as its first Director of Medical Services, an office which he held for 31 years. When, in 1943, he reached retirement age, he quit his salaried position but not his work for the School Board. He continued on a volunteer basis as the Director of the School Health Fund, a charitable fund raised by private contributions in which teachers and pupils in the schools participated and to which Dr. Cornell's wife and some personal friends contributed very generously. The money which was raised was used to furnish to underprivileged children certain medical and dental services which could not be allowed from the city's budget. Dr. Cornell continued in this work up to the time of his last illness.

In addition to his teaching at the University of Pennsylvania which continued until 1956, he also served as Assistant Professor of Public Health and Preventive Medicine at Temple University for several years.

He held the offices of President of the Philadelphia County Medical Society, Chairman of the Public Health Section of The College of Physicians of Philadelphia, Chairman of the Section on Child Hygiene of the American Public Health Association, Chairman of the Medical Advisory Committee of the Philadelphia Chapter of the National Foundation for Infantile Paralysis, and Editor of the *Diabetic Digest* of the

Delaware Valley Diabetic Association. He also was a member of the American School Health Association, from which he received the Home Award, and of the Philadelphia Council of Boy Scouts, from which he received the Silver Beaver Award. He was a member of the Philadelphia Union League and was a Mason.

During World War I, he served as a Colonel in the Army Medical Reserve Corps, and up to the time of his death he had membership in Benjamin Franklin Post №405 of the American Legion.

Aside from his medical work, Dr. Cornell was greatly interested in two recreational charities for children, the College Settlement Farm Camp near Horsham, Pa., and, adjacent to it, the Kuhn Day Camp. The latter was founded and endowed by his wife in memory of her parents, Henry J. and Willemina B. Kuhn. These two children's camps operate together, and, although they are organized as separate corporations, they have unified control with the same people serving as Trustees in both organizations, and this naturally included Dr. and Mrs. Cornell up to the time of their deaths. They were married in 1922, Mrs. Cornell dying after a long illness in 1965.

Dr. Cornell was a member since boyhood of the Girard-Welsh Presbyterian Church, and also, for his last decade, of the Overbrook Presbyterian Church. His residence was at 5939 Drexel Road, Overbrook.

Memoir of Lewis Kraeer Ferguson 1897–1968*

By PAUL NEMIR, JR., M.D.

ON Sunday, April 7, 1968, Dr. Lewis Kraeer Ferguson, master surgeon, distinguished teacher and author, and Fellow of The College of Physicians for 33 years, quietly passed away, after a protracted illness.

Kraeer Ferguson was born in Allegheny, Pennsylvania, on April 29, 1897, the fourth son of Huber and Carolyn Kraeer Ferguson. His father served as a minister of the United Presbyterian Church in Washington, Pennsylvania, for many years.

Kraeer attended Xenia High School in Ohio and in 1914 was admitted to Westminster College in New Wilmington, Pennsylvania, where he made an outstanding record. It was during his stay at Westminster that he decided to go into medicine, rather than to follow in the footsteps of his father and grandfather in the ministry.

During his last year at Westminster, he made application to the University of Pennsylvania School of Medicine, and it is probable that at this time the first complication in his well-ordered life occurred. Early in December of 1917, he and 11 other members of the senior class at Westminster were called to the colors, and he was soon sent to France. His application was considered at Pennsylvania and early in 1919 Dean William Pepper wrote to the authorities at Westminster College, stating that there had been no mention in the application that young Ferguson had received credit for the course in organic chemistry. He pointed out that organic chemistry was required for admission to the University of Pennsylvania. Kraeer had apparently much impressed his teachers, for Professor Charles Freeman answered Dean Pepper's inquiry, as follows: "He did not complete the course, owing to the fact that he was called to the service of his country during the school year, but while he was in the class he was a most efficient and satisfactory student, and was granted the A.B. degree in absentia by the faculty at the commencement of 1918." He was admitted to the University of Pennsylvania.

Young Ferguson began his studies at Pennsylvania in 1919 and received his medical degree in 1923. He continued his outstanding academic record and was elected to Alpha Omega Alpha. He served his internship at the Hospital of the University of Pennsylvania for two years. Thereafter, as recipient of the Agnew Fellowship in Surgery, he completed his surgical residency training in 1928 as the first resident in a formal training program at the University of Pennsylvania.

He then spent one year in Germany at the University of Frankfurt and in 1929 returned to Philadelphia. He was appointed Instructor in Surgery at the University of Pennsylvania and Chief of the Surgical Outpatient Clinic at the University Hospital. In 1938 he was promoted to Assistant Professor and also began to serve as one of the Chiefs of Surgery at the Philadelphia General Hospital.

In 1942 he entered the Naval Medical Corps and went with the University of Pennsylvania Naval Medical Unit, organized in 1935 by Dr. Richard A. Kern, to relieve the regular naval medical staff on the USS Solace. The Solace, a superbly equipped new hospital ship, was then going

* Read before The College of Physicians of Philadelphia, 14 May 1969. Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

into service in the Pacific Theatre. As the Chief of Surgery, he helped compile a record low mortality rate from battle casualties. Of 4,039 patients treated on the ship, only 12 died.

Upon his return to the United States, he was appointed Chief of Surgery at the United States Naval Hospital at St. Albans, New York. He was discharged in October, 1945, with the rank of Captain.

He returned to Philadelphia and was appointed Clinical Professor of Surgery at the University of Pennsylvania. The following year he was appointed Professor of Surgery in the Graduate School of Medicine. Also, in 1946, he was appointed Professor and Chairman of the Department of Surgery at the Woman's Medical College of Pennsylvania, a position which he held until 1959. In 1959, he succeeded Dr. Herbert Reid Hawthorne as Chairman of the Department of Surgery in the Graduate School of Medicine and Chief of Surgery at the Graduate Hospital. He served in this capacity until his retirement in 1962.

These are the facts. They tell a lot. There is more, however, of a lasting nature, which should be told. What were those qualities in Kraeer Ferguson that allowed him to attain such eminence and which were impressed on the young people whom he taught and trained. The attributes are not difficult to pinpoint in this instance. They were an excellent intellect, hard work in his chosen endeavor and complete dedication to it, and an absolutely thorough and meticulous approach to every activity in which he was engaged.

There were many stages in his life where these attributes were clearly demonstrated. Some were early shown and early recognized. In the correspondence of 1919 between Huber Ferguson and the Pennsylvania School of Medicine, the father wrote of the work which his son was doing in Europe during the time of his enlistment and immediately after the Armistice. A short paragraph from one of these letters is revealing: "In addition to the work which the registrar has certified, I can testify that he has been in attendance at the University of Marseilles from March 14 to June 14, and has devoted his time to chemistry (lectures and laboratory work) and to French. Of course, I know nothing of the kind of work he did, but I would expect it to be thorough." It was characteristic that Kraeer would utilize his time to the fullest advantage on cessation of hostilities.

During the summer of his second year in medical school, he applied for a position as an extern at the Connecticut State Hospital in Middletown, Connecticut. A letter from the dean to the superintendent of that institution stated as follows: "I take great pleasure in recommending him for your kindly consideration. Mr. Ferguson is an exceptionally good student, one of the best men in his class, and is everything that could be desired, and I feel that you will be very well pleased with him, should you give him the appointment which he seeks."

These same attributes were again demonstrated during the one year he spent in Germany at the University of Frankfurt, and it was on the basis of that experience that he translated the two-volume book, *Operative Gynecology,* by Dr. H. B. Pehan and Dr. J. Amreich into English.

These same attributes were demonstrated during the time that he was the Chief of the Outpatient Clinic when, in addition to a multitude of other duties, he began the work on two books. One of these, *The Surgery of the Ambulatory Patient,* was published in 1942 and has gone through a number of revisions. It is a standard reference work in the field. The other, *Surgical Nursing,* is now in the 11th edition. The earlier editions were published with Dr. Eldridge Eliason, with whom Dr. Ferguson received much of his early surgical training.

They were demonstrated so well during the outstanding record on the USS Solace. A colleague, writing about this experience in later years, stated: "Even Fergy could not

complain about not having enough surgery to do."

And, finally, they were demonstrated repeatedly in his teaching and demonstrations to students and house officers. He was precise and meticulous in his dissections and had that rare quality of being able to expound succinctly even when operating under the most stressful circumstances.

Several months prior to his retirement, Dr. Ferguson was suddenly incapacitated with a cerebral vascular accident. While there was gradual recovery, he never regained full use of his left hand and he, therefore, retired from active practice.

Despite this severe handicap, he did, however, continue to be active in teaching and in his writing. It was during this period that he spent the major portion of his time on the third book, soon to be published, entitled, *Explain It to Me, Doctor.* He had long felt that doctors did not spend enough time explaining an illness to a patient, or what surgery was being done, or what was to be accomplished by surgery, and he hoped that this book would help fill the need.

In addition to his books, Dr. Ferguson was also author or co-author of more than 150 articles published in medical journals. These were based on observations from his wide clinical experience and dealt with a diversity of topics, among them, carcinoma of the stomach, gastrointestinal hemorrhage, gastric resection, regional enteritis and ulcerative colitis.

Dr. Ferguson was a member of many medical organizations, including the American Medical Association, Philadelphia Academy of Surgery, American Gastroenterological Association, American College of Surgeons, American Surgical Association, Bockus International Society for Gastroenterology, American Society for Experimental Pathology, Sigma XI, Federated American Society for Experimental Biology, Pan Pacific Surgical Association, International Surgical Group, Société Internationale de Chirurgie, Sydenham Coterie, and the Surgeons Club. He served as an officer in a number of these organizations.

He was named Honorary Professor at the University of Santo Domingo in the Dominican Republic. In 1960, he received the Alumni Achievement Award from his alma mater, Westminster College, for distinguished accomplishment. In his honor, Woman's Medical College of Pennsylvania has established the L. K. Ferguson Visiting Professorship to bring guest professors to the college.

Because of his ability and interest in medical writing, the University of Pennsylvania School of Medicine is establishing a Memorial Prize for young physicians to attain greater competence in medical writing.

Surviving are his wife, the former Ruth Griswold; three daughters, Mrs. T. Leonard Shephard, Mrs. Karl Meyers and Mrs. Gerald McConomy; two step-daughters, Mrs. Richard G. Ulrich and Ann Henderson; three brothers, Robert G., Paul and Dr. James; three sisters, Mrs. William Hoover, Mrs. William Thomas and Mrs. Helen Eckerson, and nine grandchildren.

Dr. Ferguson will be missed, but through his Visiting Professorship, Memorial Prize, his books and, most especially, his trainees, he will be long remembered.

Memoir of Harrison Fitzgerald Flippin 1906–1968*

By CHARLES A. W. UHLE, M.D.

HARRISON Fitzgerald Flippin lived a life of extraordinary dimensions. His is the story of excellent performance and outstanding achievement. A native Virginian, he spent his early youth and student years in the Cavalier country. In the latter half of his life, Philadelphia and Douglassville, Pennsylvania, claimed him as their distinguished citizen.

He was born in Charlottesville, Virginia, on October 26, 1906. Of fine patrician stock, and, with an upbringing of the highest spiritual quality, his character and bearing were moulded in early life to make him a leader amongst men. He possessed a keen intellect. He was original and independent in thought. His industrious application to whatever the project yielded tremendous results. His warm personality and genial smile, combined with a keen sense of humor, won him many friends. With the numerous honors that were bestowed upon him, he remained a simple, God-fearing man whose heart knew compassion and humility. The fine coordination between body and mind carried him to the pinnacle of athletic prowess. The accolade of the University of Virginia's finest athlete ever to graduate from this venerable institution is still to be challenged. His father, Dr. James Carroll Flippin, an internist and Dean of the University of Virginia's Medical School, undoubtedly was a potent stimulant to his son's embracing the study of medicine.

Harry, and/or Flip, as he was known to his family and many friends, attended the Episcopal High School in Alexandria, Virginia. Here he developed into a superior student and stellar athlete. He was proficient in a multiplicity of sports and left an enviable record in track when he was graduated in 1926. Flip remained a loyal alumnus and always maintained a great interest in his many friends amongst the faculty and student body. Later in life came election to the Board of Trustees and membership on various important policy-making committees. The crowning glory of his student days was the recognition of his past triumphs in the dedication on May 13, 1967, of the Harrison Fitzgerald Flippin Field House on the Alexandria campus, a gift of his numerous friends and patients.

He was graduated from the University of Virginia in 1929, establishing an enviable record in scholastics and sports. A few of the honors bestowed were election to Phi Beta Kappa, the presidency of his senior class, and membership in O.D.K., the national leadership fraternity.

He had played first base on the Episcopal High School team and was offered in 1926 a contract in pro baseball by the late Clark Griffith, owner of the Washington Senators. This was not accepted because of his ambition to become a doctor. In college the pursuit of his premedical studies came first, his spare time being allotted to making records in track and football. The year 1927 claimed him as National Pentathlon Champion, a grueling test: the 220 yard dash, the mile, the broad jump, discus and javelin. In 1929 he held the world indoor record for the 60 yard high hurdles and tied the mark for the 50 yard low hurdles. Flip was never defeated in closed competition, either at the High School or the University. In the spring of 1929, he outdistanced a notable

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

group of competitors to win the 120 yard high hurdles event in the Penn Relays at Franklin Field. In 1927 he was a member of the All-American Track Team, and in 1928 he was named End on the All Southern Conference Football Team.

Harry was graduated from the University of Virginia Medical School in 1933 and was president of its senior class. Following the scholarship as well as the athletic tradition, he was elected to A.O.A.

After serving his internship at the Hospital of the University of Pennsylvania, he became its Resident, then its Chief Medical Resident, and finally the Edward Bok Fellow in Medicine.

From 1937 to 1965, he practiced internal medicine in Philadelphia, finding time during these years to produce 242 publications and 2 books, *Medical State Board Questions and Answers* and *Antimicrobial Therapy*. He held the rank of Clinical Professor of Medicine at the University of Pennsylvania. He was a popular teacher and much in demand as a speaker.

For many years he was Visiting Physician to the Philadelphia General Hospital and at the time of his death held the rank of Active Honorary Consultant. In 1951 he was appointed as an Associate to the Medical Staff of the Lankenau Hospital. His pioneer work in chemotherapy brought him world renown. His clinical and research work in the field of bacteriology and microbial therapy led to the modern concept of infectious disease treatment and management. He was among the first to show that the sulphonamides could reduce the mortality of pneumonia by fifty percent.

Harry was a Diplomate of the American Board of Internal Medicine and a Fellow of the American College of Physicians; he belonged to a legion of medical societies. Many academic honors were accorded him. At one time or another he served on the boards of numerous medical and non-medical institutions.

During World War II, his war effort was directed to the Office of Scientific Research and Development. Also in the later years of his life he was appointed a member of the Board of Health of the City of Philadelphia.

He was a staunch Episcopalian and a member of the vestry of his neighborhood church.

In 1937, Harry was married to Edith Quier of Reading, Pennsylvania, one of America's outstanding women golfers, and amusingly enough one whom he was never able to defeat on the links in any type of competition. To this union were born three children, James Carroll, William Seyfert and Lucy Lee. He loved his family deeply and often spoke of them. Their talents and many accomplishments were a source of pride to him.

One of his closest friends, W. Thornton ("Pete") Martin has reported the following quotation from a conversation with Harry: "During every man's life, many things happen to him which he owes to other people, to other institutions. In my own life, I owe more to the Episcopal High School than I can ever possibly repay. I not only got an academic training there; I was also able to take part in athletics. The competitive instinct I absorbed there helped me all through life. In later years, when I was running for my patients, as a physician against the Grim Reaper with the bony fingers and scythe, I'm glad to say I sometimes came in first."

During his long and tragic illness, he displayed the tremendous faith, the fortitude, the stoicism, the personal heroism which placed him above the common herd. This same Grim Reaper, of whom he had so often spoken, took His toll on November 21, 1968.

Harry loved life and cherished the bonds of friendship of the many people he knew. His was the faculty of treating the serious in a light vein and of making his friends laugh with his wit and facetious remarks. As the final curtain was coming down,

Harry referred to his impending burial in old St. Gabriel's Churchyard in Douglassville as going to join his old friends, the Indians and Revolutionary War heroes who had been buried in its historic and hallowed ground.

Knowing him well, and keenly appreciative of his friendship through these many years, sharing in a professional relationship that was never marred by an argument or dispute, and having the privilege to administer to him in his illness, I can say without equivocation, "Here was a man, a man of extraordinary stature. He was as great a physician as he was an athlete."

Memoir of Abraham Mapow 1907–1969*

By FREDERICK HARBERT, M.D.

ABRAHAM Mapow, M.D., Instructor in Otolaryngology at the Jefferson Medical College of Philadelphia, died suddenly on May 4, 1969.

He was graduated from Temple University with a B.A. degree in 1929 and an M.D. degree in 1933. He interned at the Albert Einstein Hospital in 1933–4. He attended the Graduate School of the University of Pennsylvania in Otolaryngology in 1940 and was certified by the American Board of Otolaryngology in 1949.

He was a member of the Philadelphia Laryngological Society, The College of Physicians of Philadelphia and the American Academy of Ophthalmology and Otolaryngology.

For twenty years he taught in the Graduate School of the University of Pennsylvania and Philadelphia General Hospital, volunteering many hours per week in these activities. In the last ten years, he was equally faithful in teaching medical students and residents at the Thomas Jefferson University Hospital and the Jefferson Medical College affiliated hospitals, Philadelphia General Hospital and the Veterans Administration Hospital at Wilmington.

In addition to his private practice, he gave extensive service to the Police and Fire Departments of Philadelphia and served on the staffs of Roxborough Memorial Hospital and Oxford Hospital. He was a devoted member of the B'nai Abraham Synagogue. His hobbies included a collection of classical records.

To his friends and colleagues, he will be remembered as a family man, completely devoted to his wife, Claire, and children, Sherry, Mark and Larry. His youngest child, Larry, is a Ursinus College junior and premedical student. To have his son follow his profession would be Abe's greatest pleasure.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of Ford A. Miller 1895–1968*

By JOHN D. CORBIT, JR., M.D.

FORD A. Miller, M.D. was born in Easton, Pennsylvania, on January 3, 1895, and was graduated from Lafayette College in 1917. He was a member of Phi Beta Kappa and received his medical degree from the University of Pennsylvania in 1921. Starting as intern from 1921–3, Dr. Miller was to devote all of his life to the Presbyterian Hospital. As Chief Resident during 1923 and 1924, he began his active interest in the Alumni Association for which he provided support and leadership until his death.

Dr. Miller was licensed in the Commonwealth of Pennsylvania in 1923. He became an Instructor in the Graduate School of Medicine of the University of Pennsylvania in 1924 and continued teaching there until he resigned as Assistant Professor of Obstetrics and Gynecology in 1940. During these years, he was active on the staffs of both Presbyterian and Graduate Hospitals.

Having been certified by the American Board of Obstetrics and Gynecology in 1935, he became Chief in the Department of Obstetrics and Gynecology at the Presbyterian Hospital in 1939 and continued in this responsibility until 1960. Dr. Miller, at various times, had been on the staffs of the Graduate, Philadelphia Lying-In, Woman's and Methodist Hospitals. From 1940 to 1960, he devoted his full time and energy to improving the service at Presbyterian.

He was an active participant in the affairs of the Philadelphia County Medical Society and the Philadelphia Obstetrical Society. He was elected to The College of Physicians of Philadelphia on October 2, 1935. Dr. Miller was much too devoted to his patients to be able to enjoy fully his membership in the Philadelphia Country Club, the Union League and the Masons.

At the age of 73 and after 47 years of practice, Dr. Miller died in the Presbyterian Hospital on December 5, 1968. Our community has lost a dedicated clinician, a devoted teacher and a loyal friend.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of Gerald H. J. Pearson 1893–1969*

By BERNARD J. ALPERS, M.D.

DR. Gerald Hamilton Jeffery Pearson was born in Key West, Florida, on September 21, 1893, and died in Philadelphia on July 2, 1969. He was a graduate of the University of Western Ontario and of the University of Western Ontario Medical School. After eight years of general practice in Ottawa, Canada, he entered the Graduate School of Medicine in the University of Pennsylvania, where he was a Commonwealth Fellow in Neuropsychiatry from 1925 to 1928, receiving the degree of Doctor of Science in Medicine (Sc. D., Med.). He entered the practice of child psychiatry in Philadelphia, which for the rest of his very productive life was the source of his professional activities. He became associated with Temple University, where he served as Associate Professor of Child Psychiatry from 1940 to 1948. For many years he was Dean and Director of child analytical training of the Institute of the Philadelphia Association for Psychoanalysis, where he exerted a wide influence as teacher and as preceptor. He retired as Dean in 1959 at age 65. He was Professor of Psychiatry at Hahnemann Medical College and from 1962 to the time of his death he served as Professor Emeritus.

He was a prolific and influential writer, and he was the author of many volumes and articles in the field of child analysis. His books included *Emotional Disorders of Children, Adolescence and the Conflict of Generations,* and *Psychoanalysis in the Education of Children.* He edited *A Handbook of Child Psychoanalysis,* and he was co-author of *Emotional Problems of Living* and *Common Neuroses of Children and Adults.*

He was a member of the American Psychoanalytical Society, the American Orthopsychiatric Society, the American Group Therapy Association, the American Society of Psychosomatic Medicine, the American Medical Association, the Philadelphia Pediatric Society, the Philadelphia Psychiatric Association and the Philadelphia Neurological Society.

During World War I, he was a Captain in the Canadian Army, and in World War II he served as consultant for the U. S. Women's Army Corps.

He is survived by his wife, the former Mary Agnes McKenzie; two daughters, Mrs. Francis P. Bucher and Mrs. Lesley A. Fridenberg; a son, Lieutenant Commander (USN) George R.; and by a sister and four grandchildren.

Child psychiatry is now a respected and accepted branch of general psychiatry. Hence it is difficult to realize how great were Dr. Pearson's contributions and how important was his influence in a day when not only was child psychiatry not recognized as a specialty, but in which psychoanalysis was looked upon almost with derision. During his years as a Commonwealth Fellow, he fought vigorously for the privilege of tailoring his studies to suit his needs and thus established a principle of graduate study from which those who followed him derived great benefit. His struggle developed out of a training environment which was strongly oriented toward an organic philosophy, and while he accepted this feature of his education he established also his right to pursue his psychiatric interests, a not inconsiderable

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feat in a department which was heavily weighted in favor of organic neurology. His training and his background in general practice, as well as his intellectual perspective, led him to recognize the importance of structure in emotional problems. To the practicing physician this is now an accepted concept, but for an analyst this was a revolutionary approach, and he was one of the pioneers of the psychosomatic concept of psychiatric disorders. He remained conscious of both physical and emotional factors throughout his career.

After the completion of his graduate studies, he became convinced that the symbolizations of child thinking and play could be understood best against a background of psychoanalysis. After arranging for his own analysis, he came to apply analytical methods to the treatment of problems of abnormal behavior of children. The courage which this entailed must be understood against the background of Philadelphia psychiatry at the time in which his decision was made. Not only was psychiatry still in the Kraepelinian stage; it was also openly antagonistic to Freud in particular and to psychoanalysis in general. His convictions brought him into conflict with the treatment philosophy of the Philadelphia Child Guidance Clinic of which he was then a staff member. Because the two opposing concepts could not be reconciled, he left the clinic in order to establish one of his own in Temple University. Here and in other departments where he worked later he established his school of child psychiatry where he trained many men who have continued his tradition. His viewpoint is reflected in his books, which he wrote for the general public and for those in medicine who were not psychoanalysts. His book on Adolescence was a clear description of the problems of the growing man and woman, and anticipated by several years the present concern about the generation gap. The *Handbook of Child Psychoanalysis* was the first authoritative book of its kind, the product of his own school of thought.

He was a remarkably refreshing psychiatrist, who could be best characterized as a sensible psychoanalyst. He was never carried away by slogans. Permissiveness and discipline were not contradictory, particularly self-discipline. His training program in child analysis had as its basis a thorough understanding of child development, both physically and emotionally. It was one of the major principles of his teaching that this development was constantly changing from childhood to adolescence and that treatment methods needed adjustment to the demands of growth and change. He was no slave to a technique, despite the fact that his life work was done in a branch of medicine where this becomes easily possible. He was well aware of the shortcomings of analysis and of determinism as a philosophy; hence, his opinions were well considered and remarkably broad in their perspective. He was never one to stretch facts or inferences, and behind all his analytical learning was a soft heart and great common sense. Though he was an orthodox Freudian, he lacked the rigidity of concept of many members of that group, and he was even acquainted with and interested in the organic neurological problems of children. Some of his early work had to do with the problem of aphasia and the development of speech in children. Their speech disorders continued to interest him throughout his professional life.

He was a kind, gentle and understanding man, and it was these basic qualities which endeared him to his friends and made him such a great psychiatrist. His interests apart from medicine were broad. He was raised in an environment which provided him with a firm love of the Bible.

He loved poetry and was fond of quoting it. His friends remember him for his wisdom and tolerance and for his considerate patience. Like Lord Acton, he was able to judge character at its worst without loss of faith in his fellow-man. There were many among family, friends and patients who looked to him for help. All who were so fortunate as to be touched by his gentle spirit were enriched and ennobled by the experience.

Memoir of Stanley P. Reimann 1891–1968*

By TIMOTHY R. TALBOT, JR., M.D.

STANLEY P. Reimann was a man of great energy, gifted imagination, quickness of mind, persistence of purpose, and much courage and conviction. There is no doubt that he made a great contribution to biological and medical research and that he was one of the major forces in bringing the word "cancer" out of the darkness of fear and secrecy into the light of scrutiny and study. He had a bright personality and always left a vivid impression on everyone he met.

I never knew Stanley Reimann until after I had become his successor as Director of The Institute for Cancer Research, but in the succeeding decade I had the opportunity to know him and to learn at first hand much of the history of the preceding 32 years in which he was so deeply involved. I have had the additional advantage of knowing many of the people with whom he worked for many years and of seeing the true nature of his philosphy as it was expressed functionally through the Institute. Stanley Reimann had no desire whatever to retire when he did, so that his friendly acceptance of me led to a unique relationship and lent expression to his largeness of spirit.

Numerous obituaries have already been published to chronicle his formal accomplishments, awards and honors. These may be summarized as follows:

Stanley Reimann was educated in his native Philadelphia at Central High School and at the University of Pennsylvania, from which he received the degree of Doctor of Medicine in 1913. He interned at The Lankenau Hospital in Philadelphia, was a resident pathologist at the Lakeside Hospital in Cleveland, and was a Hanna Fellow in Experimental Pathology at Western Reserve University. Upon his return to Philadelphia, he was named pathologist at The Lankenau Hospital and soon became concerned about the cancer problem.

The vision and ability of Dr. Reimann to transmit his enthusiasm to others were responsible for his most important contribution to science and medicine, namely, the founding in 1925 of The Lankenau Hospital Research Institute for the study of normal growth as well as cancer. His first partner in the scientific aspects of this project was Dr. Frederick S. Hammett, a physiologic chemist. Both men viewed the study of cancer as a fundamental problem of growth and differentiation and felt that a successful attack required the team work of biologists and chemists.

By the second decade of its existence, the Institute had attained world-wide recognition due to the foresight and energy of the Reimann-Hammett team. Growth of the research organization continued steadily, and in 1945 The Institute for Cancer Research was formed with Dr. Reimann as Scientific Director. A few years later the research staff moved into greatly expanded quarters at the present Fox Chase location. Again the principle of conducting basic research in biology, chemistry and physics and the conviction that an understanding of the processes of growth and development would ultimately provide necessary knowledge for the conquest of cancer were uppermost in Dr. Reimann's thinking and actions.

Dr. Reimann was a member of the

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Board of Directors of the American Association for Cancer Research from 1950 to 1953 and was Vice President (1951–2) and President (1952–3). He also served the Association capably as a member and often as Chairman of its Committees on Investments, Finance, Program and Local Arrangements and was a regular attendant at the annual scientific meetings from 1931 to 1966.

Recognition from various sources came to Dr. Reimann during his 32 years as Director and Scientific Director of the Institute. He was appointed Professor of Surgical Pathology in the Graduate School of Medicine at the University of Pennsylvania, Professor of Oncology at Hahnemann Medical College, Chief of Clinical Oncology at The Lankenau Hospital, and consulting pathologist at the Jeanes and The American Oncologic Hospitals. In 1937 he received the Ward-Burdick Medal from the American Society of Clinical Pathologists in recognition of his contributions to the basic sciences, and in 1957 the Strittmatter Award of the Philadelphia County Medical Society was bestowed upon him for his contribution to the art and science of medicine. Honorary doctorate degrees were conferred upon him by the Hahnemann Medical College (1945) and the Philadelphia College of Pharmacy and Science (1950). Dr. Reimann held a variety of important positions with the American Medical Association, the Philadelphia County and the Pennsylvania State Medical Societies, the American and Philadelphia College of Physicians, the American Society of Clinical Pathologists (President 1946–7), and other national societies concerned with various aspects of pathology. From 1948 to 1960, he served on the Council on Scientific Assembly of the American Medical Association (Chairman 1958–60) and played a major role in the organization of the general scientific programs for the semiannual meetings of this society. Dr. Reimann was active in several social organizations, such as the Union League of Philadelphia and the Pocono Lake Preserve, in addition to his work with various musical organizations.

In 1957, having reached the age of retirement, Dr. Reimann was appointed Director Emeritus of The Institute for Cancer Research. He immediately accepted a Fulbright lectureship and went to India to deliver a series of lectures and to participate in tumor clinics of the type that he had introduced many years earlier at The Lankenau Hospital. In 1963, in collaboration with Dr. Grace Medes, he wrote a book entitled *Normal Growth and Cancer* to add to his previous output of more than 100 medical and scientific papers on carcinogenesis, wound healing, chemotherapy, cancer control, and care of the cancer patient.

He is survived by his wife, Elsie Bein Reimann, two daughters, Mrs. George Nehrbas and Mrs. John W. Bodine, and six grandchildren.

A portait of Dr. Reimann was completed and unveiled two months before his death; it hangs in the lobby of the Institute he founded and will remind the staff and visitors of the dedication of this pioneering and inspiring leader of the Research Institute from 1925 to 1957.

The calendar of events that marked his education, training, honors and activities attest to the recognized quality of his scholarship and abilities. To those who knew him, however, it is the man himself who needs to be recalled and retained in memory as a standard.

At a time when the nation was in the throes of economic depression, he managed to keep alive an ideal and a vision which later flourished and grew into stable and lasting form. His concept that biological and biochemical research were the necessary basis for an understanding of cancer was quite new when he was instrumental in founding The Lankenau Hospital Research Institute in 1925. This Institute later became The Institute for

Cancer Research in Fox Chase, Philadelphia.

Stanley Reimann had great charm—he liked people and always had a bright and cheerful contribution to give to those whom he encountered. He was a kindly physician and never lost his contact with patients. He liked children and they liked him. He liked to go trout fishing and loved the woods and all of nature. He remained a skilled musician until the end of his life and played the piano and organ with genuine gusto. He loved to exercise his fluent knowledge of the German language and could do so at just the right moment in just the right way—usually at the expense of the unwary.

He was a man deeply involved with all of life and culture, and he moved through life with unbroken adherence to the exuberant exercise of his talents and convictions. He influenced hundreds of people—probably thousands—and almost single handedly created a new institution. He left his mark on the world and helped to improve it in all of the diverse areas where he worked and lived. Medical education, medical research and cancer research were all perceived in a perspective by Stanley Reimann in a way that led to their advancement and in a way that remains valid today. He was in some ways ahead of his time, and in other ways, not of his time.

Let us hope that other men will appear who are cast from a similar mold, and be grateful that his talents were directed toward such high purposes.

Memoir of Helena E. Riggs 1899–1968*

By RUSSELL S. BOLES, M.D.

DR. HELENA E. Riggs was born in Philadelphia on December 18, 1899. She was educated in private schools and then at Bryn Mawr College in 1917. After two years at Bryn Mawr, she transferred to the University of Pennsylvania, from which she was granted a Bachelor of Arts degree in 1921.

She then attended the School of Medicine of the University of Pennsylvania from which she received her M.D. in 1925. Following this, she served as an intern at the Philadelphia General Hospital, a privilege which was rarely accorded women in those days. She followed her internship with a year of graduate study in Pathology at the University of Pennsylvania. From 1928 to 1932, she was associated with Dr. William McConnell in the clinical practice of neurology. Dr. Riggs had always been keenly interested in neuropathology, and, following the death of Dr. McConnell, she became associated with Dr. Nathaniel Winkleman, who at that time was part-time neuropathologist at the Philadelphia General Hospital.

It was only natural because of her extraordinary talent that she should become full-time Chief of the Neuropathology Laboratory at the Philadelphia General Hospital in 1935, a position which she held continuously until her death on October 7, 1968. It is appropriate to record here that the Laboratory of Neuropathology at the Philadelphia General Hospital was the first such laboratory to be established in this country. In 1948, Dr. Riggs and Dr. Webb Haymaker were the first two neuropathologists to receive certification in Neuropathology by the American Board of Pathology.

During the second World War, Dr. Riggs served as a consultant for the U. S. Navy and was included in a team of specialists who had the responsibility of developing neurologists in a six-week period.

Dr. Riggs was President of the Philadelphia Neurological Society in 1950, an honor that previously had never been accorded a woman in the history of that organization. She was appointed Assistant Professor of Neuropathology at the University of Pennsylvania in 1950 and in 1960 was advanced to full professorship in her specialty.

Dr. Riggs was a member of the following scientific societies: American Association for Research in Nervous and Mental Diseases, American Neurologic Association, American Academy of Neurology, American Association of Neuropathologists, American Association for the Advancement of Science, Society of Biological Psychiatry, The College of Physicians of Philadelphia, Philadelphia Neurological Society. The American Association of Neuropathologists recently approved the placing of a plaque in the Neuropathology Laboratory of the Philadelphia General Hospital. The plaque was suitably inscribed as follows: "To the memory of Dr. Helena Riggs, in recognition of her services to American Neuropathology."

Dr. Riggs was intensely devoted to her specialty which she greatly enriched by her many major contributions to its literature, especially in the field of cerebral-vascular disease. It was my good fortune to co-author a number of papers with Dr. Riggs,

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

chiefly on the neurogenic and circulatory factors in the etiology of peptic ulcer and on Wernicke's Disease. At the time of her death, Dr. Riggs was engaged in writing a book on myelinization of the infant brain. This book was the product of seven years' study on this subject in which she was assisted by Dr. Lucy Rorke, who joined her in 1961, as an NIH trainee. Dr. Rorke remained with her as her assistant until the time of her death. Ironically, Dr. Riggs' publishers, the J. B. Lippincott Co., decided to accept her manuscript for publication just a few hours after Dr. Riggs had died. Fortunately, Dr. Rorke was able to complete the work so that it will be published in the very near future. Dr. Riggs was a scholar of high intellectual achievement and as a superb teacher devoted much of her time to sharing her knowledge with her colleagues and the students who were fortunate enough to work with her.

Her major avocational interests centered about her home with its extensive gardens. These were exquisitely nurtured and provided a deep source of satisfaction and pleasure to her. She was also a gourmet cook, one of those rare seamstresses who never used a sewing machine even for making dresses, and a particularly accomplished knitter and needle-worker.

She had always enjoyed excellent health so that her sudden death from a massive coronary while on holiday with her family in California was especially shocking.

On December 18, 1968, a memorial service was held in the Medical Library of the Philadelphia General Hospital in honor of Dr. Riggs. Dr. Charles Rupp, nationally prominent Philadelphia neurologist and long-time friend and associate, delivered a eulogy in her honor. One of her outstanding pupils, Dr. John McGrath, world-renowned neuropathologist, added a second tribute to the memory of this great lady.

Dr. Riggs' passing creates a great loss in the field of neuropathology, and one can only hope that her many co-workers will maintain the high traditions for which she was so well admired.

Memoir of Lennard L. Weber 1915–1969*

By S. LEON ISRAEL, M.D.

LENNARD L. Weber was a product of Philadelphia. He was born here on May 18, 1915, received a Bachelor of Arts degree from the University of Pennsylvania in 1937, and was graduated from the Hahnemann Medical College in 1931. He married his childhood sweetheart, Rose Gussman, while a medical student. Following an internship at the Mount Sinai Hospital (now Daroff Division of the Albert Einstein Medical Center), he entered upon a 4-year stint of active military service. He served in the Medical Corps of the United States Army, supporting troops in many areas of the South Pacific, was decorated for gallantry, attained the rank of Major, and returned at the conclusion of World War II to be plagued for several years by recurring bouts of malaria. He entered the field of obstetrics and gynecology by being a resident for three years (1948–50) at the Mount Sinai Hospital. He began his practice in that specialty during the fall of 1950 and was certified by the American Board of Obstetrics and Gynecology in 1952. Doctor Weber's growing practice did not interfere with his desire to contribute to medical education and to be an active member of obstetric and gynecologic organizations. His activities as a teacher were pre-eminent, initially in the Graduate School of Medicine and later in the School of Medicine, University of Pennsylvania. Several weeks prior to his death he had been promoted to the rank of Associate Professor of Obstetrics and Gynecology at the University of Pennsylvania. His hospital duties, always executed with an earnest sense of responsibility, involved him with the Graduate Hospital of the University of Pennsylvania, Pennsylvania Hospital and the Einstein Medical Center. He had positions of senior responsibility in each of them.

Doctor Weber was known as a reliably dependable committee member in all of his organizational work. He was an active member of local and state medical societies, the American Medical Association, the American College of Surgeons, The American College of Obstetricians and Gynecologists, The College of Physicians of Philadelphia, the American Association of University Professors, and the American Fertility Society. He was especially earnest in his efforts to assist in the early growth and development of the local District work of The American College of Obstetricians and Gynecologists, involving himself in all sorts of educational programs in Pennsylvania, Delaware, and New Jersey. He never failed to respond to a call for work in the Philadelphia Obstetrical Society in which he was, at the time of his death, the First Vice-President. One of his most distinctive contributions to the medical scene of Philadelphia was his splendid chairmanship of the Maternal Welfare Committee of the County Medical Society for many years. Most of the senior obstetricians in Philadelphia will recall the prodigious effort he expended in the interest of that Committee. Doctor Weber was particularly interested in the welfare of the pregnant woman and her product, an interest that probably stemmed from his many years of service to the Maternal Welfare Committee. During the last 10 years of his life, he brought a particular

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devotion to the study of fetology and engaged himself in several basic research activities in that most important subspecialty. In this spirit, it was most natural for him to be willing to assume (by relinquishing some of his private practice) the duties of Medical Director of the Maternal and Infant Care Program at Pennsylvania Hospital, an activity that he not only enjoyed but carried off most effectively.

Doctor Weber's enthusiasm for his chosen specialty never wavered. He was an earnestly involved figure at any meeting, identified readily by his impeccable order of dress, charming affability and handy cigar. Although prematurely terminated, Doctor Weber's life was filled with service to his profession in many ways and one which he enjoyed because of his variegated concerns. In addition, for many years he indulged his hobby in photography, displaying a widely admired artistic ability as well as matchless taste. He was capable of enthusiasm regarding works of art, theatre and modern literature. Despite all such varied interests, Doctor Weber remained a deeply religious person, one devoted to the tenets and principles of his faith. It was, perhaps, the latter characteristic that sustained his dear ones and close friends during the hours he planned his immediate future, involving not only the coming marriage of his only daughter but also what he knew would be a long recovery period, as he faced the known ordeal of a radical operation for an esophageal carcinoma on February 14, 1969. He succumbed to pneumonia during the second postoperative week.

Doctor Weber is survived by his wife, Rose, of 30 years; a daughter, Nancy; and a son-in-law, Stephen Machinton, who is a medical student. They may draw solace, as do his many friends and patients, from Doctor Weber's faith in God as well as in people. Our much-loved friend, a paragon of many virtues, left us with our knowledge of his awareness that he had a glowing set of family relationships, that he had imparted countless lasting gems of knowledge to hundreds of students as well as residents, and that he had contributed to the welfare of thousands of women as well as to the health of their unborn children. He will rest in peace.

A Letter from the Benjamin Rush House Committee

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A GROUP of citizens in Philadelphia has recently organized the Benjamin Rush House Committee, which aims to reassemble and restore the birthplace of the famous patriot and Signer of the Declaration of Independence. Many distinguished Americans have offered to serve as Honorary Patrons. The Benjamin Rush House Committee invites you to contribute toward this effort.

"Who knows but it may be reserved for America to furnish the world from her productions, with cures for some of those diseases which now elude the power of medicine?"

Medical Inquiries and Observations, 1789

Benjamin Rush (1745–1813). Attributed to Benjamin West, this portrait hangs in The College of Physicians of Philadelphia.

Let us acquaint you more fully with Benjamin Rush and with our project.

Doctor Benjamin Rush, the foremost physician of the young American Republic, was born in a modest stone farmhouse in Byberry Township, now a section of Northeast Philadelphia. After graduation from Princeton at age 14, he obtained his medical diploma at the University of Edinburgh and began a lifetime of medical practice in Philadelphia.

Rush's medical accomplishments alone merit him a permanent place among the giants of American medicine. He became the first Professor of Chemistry at the Nation's first medical school, the University of Pennsylvania, and wrote the first book on chemistry in America. He served as physician to Pennsylvania Hospital for thirty years and became the hero of the yellow fever epidemics of the 1790's. Because he published the first book on mental illness in America (1812), he is known as the "Father of American Psychiatry," and his profile is in the seal of the American Psychiatric Association. He is likewise hailed as "patron saint" by obstetricians, pediatricians, veterinarians and tuberculosis specialists, as well as by those in military medicine. He was the most esteemed medical teacher of 18th Century America and the first American physician to achieve an international reputation.

Rush was one of the original twelve founding Senior Fellows of The College of Physicians of Philadelphia. He was a member of the Committee on Publication and assumed the task, with William Shippen, Jr., and Samuel P. Griffitts, of preparing a preface for the first issue of the *Transactions & Studies*.

Benjamin Rush was far more than a physician. Friend of Adams, Jefferson, Franklin and Washington, he stands among the greatest patriots of Revolutionary times. He was a member of the Continental Congress in 1776 and a Signer of the Declaration of Independence. He gave the name *Common Sense* to Tom Paine's fiery pamphlet. He became Physician General in the Continental Army. Washington relied on his advice prior to the Battles of Trenton and Princeton. In more peaceful times, Rush became Treasurer of the United States Mint.

The significance of Rush for us today, however, rests in his sociological contributions. With Benjamin Franklin, Rush founded the first organization (1774) in America for the abolition of slavery. He staunchly supported the freedom, education and religious instruction of black Americans. He promoted public schools and was also a founder of Dickinson College as well as a founding trustee of Franklin and Marshall College. He supported the rehabilitation and reform of criminals, as well as the abolition of cruel punishment and the death penalty. He advocated establishments for the cure of alcoholism. He promoted a dispensary for the medical relief of the poor.

In the light of such accomplishments, you can well understand our wish to preserve Rush's birthplace as symbolic of ideals and goals for which we strive today. The Rush House is the only birthplace of a Signer of the Declaration of Independence which we still have in Philadelphia, where the Declaration was written and proclaimed. The house was built in 1690 by John Rush, great-grandfather of Benjamin, who fought under Cromwell and who arrived in Pennsylvania in 1683. The local neighborhood has great interest in its preservation, as evidenced by the number of local organizations serving as sponsors.

Let me now acquaint you with our progress to date. Many citizens and organizations, local and national, have formed the Benjamin Rush House Committee, which is now proceeding to incorporate. The stone and woodwork of the Rush House have been transferred from its original location (now a housing development) to the grounds of the Philadelphia State Hospital, where they can be carefully protected until the reassembling can begin.

The Commonwealth of Pennsylvania has given permission for reconstruction of the house on state property on a prominent site along U. S. Route 1, where it will be the first historic structure which the visitor to Philadelphia will see on entering our historic city by way of this busy highway. Philadelphia State Hospital has indicated that the house will be maintained in perpetuity as one of the hospital buildings. We hope that the final result will resemble Washington's Headquarters at Valley Forge, a similar reconstruction project.

We are now ready to launch a nationwide fund-raising campaign for a goal of $150,000. A generous initial contribution of $5,000 has been made by the Philadelphia Foundation and sizable grants have been received from Merck Sharp & Dohme and Hoffmann-LaRoche Foundation.

Tax-deductible donations may be made to The Historical Foundation of Pennsylvania and mailed to Robert E. Jones, M.D. Chairman, Benjamin Rush House Committee, 111 North 49th Street, Philadelphia, Pennsylvania 19139.

We hope you will support this worthwhile endeavor.

Sincerely yours,
The Benjamin Rush House Committee
Robert Erwin Jones, M.D.
Chairman
Daniel Blain, M.D.
Vice Chairman
Margaret M. Huddleston
Secretary
Townsend Munson
Treasurer
Harold Rosenthal
Counsel

To: The Benjamin Rush House Committee
c/o Robert E. Jones, M.D.
111 North 49th Street
Philadelphia, Pennsylvania 19139
My tax-deductible contribution of $_____, payable to the Historical Foundation of Pennsylvania, is enclosed.

Name_____

Address_____

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The Philadelphia Neurosurgical Society[1]

By FREDERICK MURTAGH, JR., M.D., F.A.C.S.[2]

I WELCOME this opportunity to speak about the Philadelphia Neurosurgical Society. It is rather startling, however, to discover suddenly that something with which one has been so closely associated has become of historical significance.

Physicians are the most gregarious people. They constantly need the association of other physicians for exchange of ideas to feed their intellectual appetites and as soil in which to seed the products of their own fertile minds. The development of American medicine can be easily traced through the archives of an astounding number of medical organizations and societies that have been formed and have existed since the first physician set foot in America. Every society is formed as a response for a need to communicate, and it will flourish so long as that need exists. If the basic need becomes submerged in the academic and social progress of medicine, the organization may find a new purpose for its existence, merge with another society, or disband. In this manner, most organizations have survived in one form or another and become integrated at national and international levels to become the policy-making bodies that maintain the levels of excellence which have characterized our profession from the beginning. We now find ourselves virtually a profession of organizations that should fulfill every academic, intellectual, social and political need of the physician. Today's instant communication and almost instant transportation places every physician in instant contact; yet, the number of organizations is phenomenal and if one wishes and has the time and money, he can be a full-time attender of meetings.

Why then, in the organization-filled world of 1958, was there the need to develop a small neurosurgical society in one of the country's largest urban areas? At that time, there existed four major academic neurosurgical programs within the city of Philadelphia. There was, however, very little communication among them. They might just as well have been practicing and functioning in different cities. The senior neurosurgeons knew each other quite well, but their junior staffs and residents were very often only casually aware of other nearby neurosurgical worlds and, most important of all, no one program knew what the other was doing. In addition, there was no local grouping of neuro-

[1] Section on Medical History, The College of Physicians of Philadelphia, 18 November 1969.

[2] Chairman of the Division of Neurological and Sensory Sciences and Professor of Neurosurgery, Temple University Health Sciences Center, Philadelphia, Pennsylvania 19140.

surgeons to represent the specialty politically at the state and national levels. It was true that they saw each other at national meetings, but at this time they were more intent upon sitting and talking with old friends from greater distances, and the national societies had little or no concern for the local problems of neurosurgical practice.

Dr. Rudolph Jaeger, Professor of Neurosurgery at Jefferson Medical College, was disturbed by this lack of communication within the city and wished to do something about it. It was his feeling that the years of provincial rivalry and competition were coming to an end and he felt that there was a need for the development of a local group of neurosurgeons for the exchange of ideas. He discussed this concern with Dr. Michael Scott, Professor of Neurosurgery at Temple University Medical School, who supported his views. They, in turn, spoke with Dr. Robert Groll, Professor of Neurosurgery at the University of Pennsylvania, and Dr. Axel Olsen, Professor of Neurosurgery at Hahnemann Medical College. The upshot of this conversation was that these four men held an impromptu dinner at a Greek restaurant in downtown Philadelphia early in 1958. They were unanimous in the opinion that a society should be formed within the city to foster the specialty of neurosurgery and to develop closer interprofessional relationships for the practitioners of this specialty. It was also their feeling that, in order to insure the participation and membership of all neurosurgeons in Philadelphia in the society, Dr. Charles Harrison Frazier (1870–1936), formerly Professor of Neurosurgery at the University of Pennsylvania and a pioneer in the specialty, should be the patron of the society and that its presidency should be on a seniority basis, beginning with Dr. Francis Grant as first president and Dr. Temple Fay as first vice-president and president-elect. It was obvious that they needed a workhorse for this embryo organization, and by some means which I have never been able to ascertain, I was selected to be secretary-treasurer. This was a most fortuitous decision for me because it gave me the opportunity to meet, know, and become friends with many colleagues whom I might not otherwise have had the opportunity to see. In addition, it led to the fine experience of helping to develop a medical organization from the very beginning.

The first formal meeting of the founders' group was held at Weber's Tavern on Montgomery Avenue, Ardmore, Pennsylvania, in the fall of 1958. Dr. Francis Grant presided; Dr. Temple Fay was vice-president and Dr. Frederick Murtagh was secretary-treasurer. Drs. Rudolph Jaeger, Robert Groll, Michael Scott and Axel Olsen formed the initial Council of the organization. The first order of business was for each member present to contribute ten dollars, not only to pay for the meal, but also to start the treasury. There was no question among these present that the society should be named the "Philadelphia Neurosurgical Society," and that the late Dr. Charles Frazier should be its patron. Discussion of the scope of the organization, however, led to some differences of opinion. It was obvious that if the group was confined to Philadelphia neurosurgeons there would hardly be enough members to form a good journal club and that the group might not survive because of lack of strength. It was evident that the neurosurgeons in Pittsburgh, Wilmington, Baltimore, and Washington, D.C. shared the same lack of communication with us and with each other within their cities. In addition, there were a number of neurosurgeons practicing in many communities outside of the large urban areas. It was agreed that invitations to join the organization would be extended to neurosurgeons in this geographical area and, if enough interest was generated, the scope of the organization could include the region of

FIG. 1. Photograph taken at the first general meeting of the Philadelphia Neurosurgical Society, Jefferson Medical College, May 15, 1959. Seated (left to right): Drs. Rudolph Jaeger, Temple Fay, Robert Groff. Standing (left to right): Drs. Michael Scott, Frederick Murtagh, Jr.

Pennsylvania, New Jersey, Delaware, Maryland, and Washington, D.C.

The first general meeting of the Society was held on May 15, 1959 at the Jefferson Medical College. Dr. Francis Grant presided over the scientific session, which was a Symposium on Pain. The meeting was attended by 39 neurological surgeons, not only from Philadelphia and other locations in Pennsylvania, but from New Jersey, Delaware, and Washington, D.C. The dinner which followed the scientific session was held at the Benjamin Franklin Hotel and presided over by Dr. Temple Fay in Dr. Grant's absence. At its business meeting, the organization was ratified by all members present, who became the charter members of the organization. It was voted to retain the name "Philadelphia Neurosurgical Society" in spite of the wider geographical distribution of its membership.

The Society thrived and flourished, becoming a forum for local neurosurgeons to express their ideas and to know each other better. It also became the recognized organizational body of neurological surgeons at each of the pertinent state levels.

It was policy to have two meetings per year. The spring meeting was usually held at the home-base of the president. The first eleven presidents were chosen in order of seniority:

1. Dr. Francis Grant, University of Pennsylvania

2. Dr. Temple Fay, Temple University
3. Dr. Rudolph Jaeger, Jefferson Medical College
4. Dr. Hugh Fulcher, Georgetown University
5. Dr. James Watts, George Washington University
6. Dr. Robert Groll, University of Pennsylvania
7. Dr. James Arnold, University of Maryland
8. Dr. Stewart Rowe, University of Pittsburgh
9. Dr. Michael Scott, Temple University
10. Dr. William Spence, Washington, D.C.
11. Dr. Axel Olsen, Hahnemann Medical College

The practice of naming the president by seniority was easy at first because there were so few neurosurgeons that their seniority could easily be established. More recently, however, the establishment of seniority has become more difficult when sometimes only a week or a month or two would separate the candidates for presidency. This practice was therefore abandoned in 1969, and it is my honor and privilege to be the first elected president of the Society.

The fall meetings of the Society were usually called at the invitation of one of the members. Consequently several interesting meetings were held in Wilmington, Delaware, and Allentown, Harrisburg, Hershey, and Sayre, Pennsylvania.

In 1962, the Pennsylvania State Medical Society invited us to meet in conjunction with their fall meeting. This was done for three years. We found that this practice more or less dictated the time and place of our meeting, as well as the format, and so it was discontinued in 1965.

My tenure as secretary-treasurer lasted from 1959 until 1966. As we were writing the by-laws and constitution, I was careful to have it read that the secretary-treasurer could serve for three years only and not succeed himself. At the end of my first three years, however, I found that this statement was mysteriously missing at the time the by-laws and constitution were accepted by the Society. It was my pleasure, therefore, to serve for another three years. However, since I have strong personal convictions that no one person should be in such a position for more than seven years, I resigned in 1966 for the good of the Society and was succeeded by Dr. Arthur B. King of Sayre, Pennsylvania.

As the Society grew, it became increasingly involved as a policy-making body at the state level with problems relative to the practice of neurological surgery. This worked well for the Pennsylvania members, but it became rather cumbersome for neurosurgeons in Delaware, Maryland, New Jersey and Washington, D.C., to state that they were represented by the Philadelphia Neurosurgical Society. The name Philadelphia Neurosurgical Society had been challenged several times because of the geographical scope of the organization. Each time the question arose, however, it was decided to retain the name in honor of the origin of the group. An additional problem arose with its confusion with the more venerable Philadelphia Neurological Society. And to confuse matters even more, in 1964, I was not only secretary-treasurer of the Philadelphia Neurosurgical Society, but also served a term as president of the Philadelphia Neurological Society.

In 1967, the matter came to a head and it was obvious to everyone that a more appropriate name would be "The Mid-Atlantic Neurosurgical Society." Therefore, in 1967, the former Philadelphia Neurosurgical Society passed into history to meet the changing needs of growing membership.

Dr. Max Peet and His Contributions to Neurosurgery[1]

By PHILIP D. GORDY, M.D.[2]

IT is quite appropriate that the professional accomplishments and the intriguing man that was Dr. Max Minor Peet be discussed at this meeting of the medical history section of The College of Physicians of Philadelphia. Though Dr. Peet was a graduate of the University of Michigan Medical School in the Class of 1910, he received his postgraduate training in surgery at the Hospital of the University of Pennsylvania in Philadelphia where he worked with Dr. Charles H. Frazier. As a result of this experience, he developed an early interest in the surgery of the nervous system.

He returned to the University of Michigan in 1916 as an Instructor in Surgery. The limited amount of neurosurgery done at that time was carried out by Dr. Peet. By 1926, he confined his efforts to the surgery of the nervous system and, in 1930, he was named Professor of Surgery in charge of the Division of Neurosurgery.

His two major areas of interest were the surgery of tic douloureux and his procedure of splanchnicectomy for hypertension. He learned the procedure of differential section of the sensory root of the trigeminal nerve under Dr. Frazier, and he became an acknowledged master of the procedure. He devised the operation of splanchnicectomy for relief of hypertension and eventually carried out over 1800 of these procedures.

The major interest of a scientific nature which Dr. Peet had aside from neurological surgery was ornithology. This interest began in high school and continued throughout his life. He was responsible for numerous original observations and eventually acquired the largest private bird collection in the world.

To those of us who trained under him, Dr. Peet will be remembered not only as a master surgeon, but also as a very human person with a keen sense of humor, sometimes needling, but always kindly, toward his "boys."

FIG. 1. Photograph of Dr. Max Minor Peet (1885–1949).

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The Massa Hoax[1]

By R. NORTON HALL, M.D.[2]

DR. GANAKON, distinguished Fellows of the College and honored guests . . . higher primates all.

Perhaps never before in the history of The College of Physicians of Philadelphia has a guest speaker been so accurate when I say that it is with humility and an awareness of undeserved privilege and dubious honor that I am here tonight. Behind the august façade of the College resides a warm sense of humor . . . and I thank you.

The title which appears on tonight's program is *The Massa Hoax;* the unpublished subtitle is, *The Day We Made Monkeys of Ourselves and Some Others.*

Monkey business is nothing new to the medical profession or to any other area of human endeavor. In fact, if we believe what Desmond Morris tells us, and many of us had come to the same conclusion before the printing date of *The Naked Ape*, all human business is monkey business. It is small wonder, therefore, that an ape story like ours generated as much human interest as it did. Recall, if you will, the most popular cage at the zoo, or the best act in the menagerie. And, of course, there has never been anything to top cinema's *King Kong.*

Our monkeyshines started quite innocently at the scrub tanks of the neurosurgical operating suite in the Hospital of the University of Pennsylvania. In the early morning hours of a bleak Thursday after a grim Monday, Tuesday and Wednesday, the other residents and I were discussing the surgical approach to a pending case. The head scrub nurse uncoupled my train of thought with her customary inquiry, "Norton, what's on the schedule for tomorrow?"

At that point in time I couldn't tell her, but this was unacceptable. So, she persisted to inquire. In desperation, to get her off my back, I turned slowly and deliberately from the sink, glared across the top of my mask, and said "Would you believe it, a gorilla?"

Her lower jaw dropped from a grinless face and her eyes seemed to get bigger. It was truly a look of shocked belief. She took a half-step backward, tilted her head to the side and said, "I never know when to believe you. But I won't believe it until I see it on the O.R. schedule." It was at that moment that the Massa Hoax was born.

We then entered the operating room, gowned and gloved, and began the operation. Our worried nurse scampered into, around, and out of the room, back and forth, as head O.R. nurses are wont to do, and engaged in conversation with the anesthesia resident, as they are also wont to do. The subject of the conversation was tomorrow's case: an operation on a gorilla.

I must admit that it was as a result of listening to their conversation with one ear that I picked up enough information to make my gambit plausible. I had completely forgot about Massa (Figure 1); I didn't even remember his name. I had not seen the story in the newspaper about his recent surgery. I didn't even know that he was sick. I was also unaware of the fact that two of our staff men, one from anesthesia, the other from otolaryngology, had participated in the operation to drain Massa's infected paranasal sinuses. It was the anesthesia resident who indirectly informed me that Massa was the oldest liv-

[1] Section on Medical History, The College of Physicians of Philadelphia, 18 November 1969.

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ing gorilla in captivity and that his vital statistics included 300 pounds of weight and 6 feet of height. "Oh yes, and his hair is 8 inches in length," added the nurse.

Immediately after surgery, I went to the schedule board and wrote in the name "Massa" under "Patient" and "Right frontal craniotomy" under "Procedure." For the patient's location, I scribbled, "Room 200," making the "2" look like a "Z." With as much nonchalance as I could muster, I went back to the scrub nurse and told her to check the schedule. By this time she was no longer surprised. She had already convinced herself, as well as a few of her friends, that we were, in fact, going to operate on Massa.

I explained, for the benefit of the skeptics, that Massa's frontal sinusitis had worsened and eroded through the base of the skull, forming a brain abscess. Since the University of Pennsylvania had figured prominently in his earlier management, by cooperative efforts between the School of Veterinary Medicine and our Departments of Anesthesiology and Otolaryngology, it was only reasonable that we in the Department of Neurosurgery should be consulted for the obvious complication at hand. "After all, human medicine and monkey medicine are not that far apart. Don't you remember Able and Baker?"

All of this was accepted at face value, as well as the need for doing such delicate surgery in familiar surroundings with our own instruments and nursing team and our own anesthesiologists. And, "Furthermore, only Oscar knows how we like our heads shaved."

I then went to two staff men in anesthesia who cover our service to explain the real situation and to request their indulgence. The story tweaked their fancy, and they both became accessories before the fact.

Thus the plot was laid and thickening by the minute; by 3 P.M. that afternoon

Fig. 1. Photograph of Massa the gorilla, age 38 years. (Courtesy of the Zoological Society of Philadelphia.)

the surgical schedule was printed and circulated. Operation Massa was launched!

There were many calls throughout the day concerning details that had to be considered to ensure a successful outcome for surgery. "What about the lice and the fleas?", one asked. "Oh," I said, "that is no problem. We'll put him in a large plastic bag with just his head and an arm sticking out." "What about the table, is it big enough?", another queried. I said, "We plan on using two tables, side by side."

"Where was he to go after surgery, to I.C.U. or to the usual Recovery Room?" "Who would be selected from the nursing registry to be the private duty types?" All of these and many other matters had to be considered and resolved. We had no idea that there was actual competition between the nurses of the Recovery Room and the I.C.U. Each group thought that they could give better care than the other. To grease our palm, the Recovery Room people granted us the use of an entire bay, the one with all the monitoring devices for anesthesia research.

Our plan of attack was quite simple.

Massa was to come to the hospital on the morning of surgery, after the rush hour traffic, of course, in the back of a large van with a hydraulic tailgate lift. He was to have chains on both ankles and wrists, as well as one around his neck. He was to be escorted by five chain men and his favorite handler. Massa would enter the hospital complex through the back entrance and would ascend to the operating room suite by way of the freight elevator. He was to be walked, or whatever gorillas do, down the hallway in his new plastic suit to O.R. 10 where he would be coaxed onto the two tables and would then, on a given signal by his favorite handler, extend his arm docilely so anesthesia could be induced intravenously.

Obviously the patient would be N.P.O. from midnight before, and he would be given no sedation for fear of the deadly combination of increased intracranial pressure and respiratory suppressants.

Oscar, the neurosurgical orderly, who positions and shaves all of our patients, had been forewarned. Thus he became forearmed by collecting no less than seven surgical prep trays to assure a good job in baring the ape's arms and scalp.

The word had spread, apparently, and volunteers to scrub from the ranks of the nurses, medical students and interns, were fast accumulating. For those who didn't think they had a chance to have a hand in the operation, places of observation were marked in the O.R. and were jealously claimed. There were sixty such places arranged by Friday morning.

Not to be outdone, the Department of Radiology was on record to render whatever service it could in the way of skull films on the morning of surgery. And, in fact, at one point they had a few people looking through their department for Dr. Hall and Massa who were both down for skull x-rays.

By this time, an attest to the efficacy of the hospital grapevine, not only were the professional and paramedical personnel informed, and in some depth, but so were some of the patients. One thoughtful private patient on our service called the William Penn Shop and requested that a bunch of bananas be delivered to Massa post-operatively, in care of the University Hospital.

That night when I went to bed, I thought the Massa incident would also sleep. However, the next morning, the operating suite was alive with cameras and people. It was obvious that some had never before been in an operating room: many wore scrub suits, caps and masks in place over their street clothes. The place was abuzz with activity and excitement in anticipation of the moment of Massa's arrival. Meanwhile, in the neurosurgical area, Oscar was having some serious second thoughts, and the other orderlies, those who could be found, were on the verge of mutiny.

It was time, I thought, to let the monkey out of the bag, so to speak. I called a hurried council of war with the rest of the residents. It was decided that I should go to the master O.R. schedule, draw a broad pencil line through Massa's name, and print in big letters "Cancelled." It was also decided that a story of explanation was needed, one that would mull the disappointment of believers. So, once again we concocted a story.

You see, as I stated earlier, Massa had been N.P.O. since midnight. The truck-driver made a wrong turn and brought the van to a halt, not behind the Raydin Building, but behind the Food Services Building where the aroma of fried bacon and fresh coffee enriched the already scented atmosphere of early morning Philadelphia. When the doors of the van parted, the starved beast had an uncal fit and hurled his handlers about in a rage, rendering the entire situation unsafe for both man and beast. Only with great effort was Massa subdued and locked into

the van. With sadness, the powers that be decided to cancel surgery for today. They would try again another time, but next time at the zoo.

Apparently this story was accepted, and with gusto, for by the time it had worked its way off the O.R. floor I didn't recognize it. It seems that someone had reported visiting the Receiving Ward and finding it a shambles. We heard there were people lying all over the place with chain marks on their heads and torsos, beaten into near senselessness by the enraged and starved gorilla.

After this misreport, we thought that the event of Massa's craniotomy had come and gone, and was, for all intents and purposes, over. We returned to our daily routine with a chuckle.

Later that day, I was summoned to the Office of Public Relations to explain the sudden increase in telephone calls to the hospital inquiring about Massa, his diagnosis and post-operative condition. So I explained the hoax. Before I was finished, however, the P.R. girl was on the phone to a "friend" on the staff of the *Evening Bulletin*. He was interested in clearing up the matter, not on reporting it. The City Editor had been given a tip by a reliable informant but couldn't track down the story. Since it was nothing more than a hoax, he was sure that it wasn't newsworthy. With reassurance that I had finally squelched the tale, I left, again convinced that I had seen and heard the end of the Massa hoax.

The next day everything seemed back to normal. Rounds went as usual and spirits were high. The neurosurgical residents agreed that it had been a good joke, and that the best part of it was its harmlessness.

Later that afternoon, while napping in the on-call room, I was awakened by a telephone ring. It was an outside long distance person-to-person call from, according to the voice at the other end, the Mike Jackson Show from KABC-TV in Los Angeles, California. As she talked I heard the time beep, yet was convinced that someone was playing a joke on me. I hung up, telling my caller that I was very busy, but that may be at a later date we could talk about it over a drink or two.

I went back to sleep, only to be awakened shortly by another call, this time from a recognizable voice. It was one of my residents who claimed to be reading from a newspaper story about Massa. I bolted out of bed and was immediately awake, taking a shower in my own cold sweat. Despite my initial reaction, I was still not convinced of the validity of this call either. I decided to make myself scarce for awhile. Naturally, the first place I went when I left the confines of the hospital was to the local newsstand.

There it was, on page one, in headlines: "CRANIOTOMY ON MASSA—JUST A SURGEON'S JOKE." The spoof was on the hourly newscasts throughout the day and apparently made the national wire service. It was also the funny ending for the 11 P.M. local TV news. Since that time I have received numerous letters from all over the United States and its territories, telling me of the appearance of our gorilla story. A few writers have enclosed newspaper clippings.

To date, the farthest newspaper known to carry the story was Puerto Rico's *San Juan Star,* delivered to Saint Croix in the Virgin Islands. Moreover, friends are still sending me pictures of apes and the O.R. nurses have presented me with a small plaster gorilla with his hands holding his head.

The Philadelphia Zoological Garden, this country's first and best zoo—related not only by parentage, but also by continued happy association to the University of Pennsylvania—has remained friendly. Their public relations department has provided a display for the Col-

lege foyer and Dr. Fred Ulmer personally took a color photograph of Massa for tonight's talk. I assume that the gate receipts increased at the zoo for two weeks after the craniotomy story.

In conclusion, I suppose that the Massa hoax was a personal experience of more worth than I can now appreciate. For it was my first encounter with practical anthropology and group dynamics. The only expressible insight derived therefrom is: "Well, I'll be a monkey's uncle!"

Multiphasic Health Testing[1]

By JOSEPH H. BOUTWELL, PH.D., M.D.[2]

I WANT to thank the Pennsylvania Public Health Association and the Section on Public Health of The College of Physicians for the pleasurable opportunity and the high honor which was bestowed upon me, through your Program Committee, when I was invited to speak to you today.

Although I come to you from Atlanta, I am honored to claim a number of you in the audience as friends. Dr. Claude P. Brown, whom I met soon after I arrived in Philadelphia in 1949, was very thoughtful in sending me an assortment of printed memorabilia of Dr. Arthur Parker Hitchens, in whose memory we are gathered here today. I never had an opportunity to meet Dr. Hitchens, as his death occurred in December of 1949, only six months after I started my appointment at the Department of Biochemistry of Temple University Medical School. Dr. Hitchens was a laboratorian, a bacteriologist and a public health epidemiologist. He had, I deduce from his activities, a strong sense of the professional community of understanding which is a necessity for scientific communication. His leadership in the founding of *Abstracts of Bacteriology,* his support of *Biological Abstracts,* his contributions to *Bergey's Manual* and to the *Diagnostic Procedures and Reagents* of the American Public Health Association all attest to this, as do his efforts in the publication of *The Journal of Bacteriology*. His wife, Ethel Bennet Hitchens, has insured that The College of Physicians will continue to be able to maintain that journal in the College library.

It is perhaps fitting that a clinical chemist be recruited to discuss multiphasic screening, a technique or procedure which, it is hoped, will contribute to the ability of the health profession to control long-term (or chronic) illnesses in the same way that the diseases associated with microbiological causes have been controlled.

The purpose or purposes of multiphasic health testing should be clearly understood. Unless the purpose (the end result sought) is very clear to all (including those concerned in the required secondary supplemental decisions), much confusion and waste can result.

First, let me outline what I consider to be included in multiphasic health testing. In addition to the bookkeeping necessities for patient identification, the first phase of multiphasic health testing includes a review of past medical history, family history, personal habits, and a pertinent interval history of changes in those items. Such information may be obtained by various time-saving techniques, such as a self-administered questionnaire.

The second phase of the system comprises programs for system and organ testing. Supplementing the procedures used in the collection of data for these systems are laboratory testing methods.

The mere enumeration of the systems to be examined shows that some economy of effort and design must be relied upon to insure a workable system of multiphasic health testing. The decisions needed to direct the procedure effectively can be guided by examining the purposes of multiphasic health testing.

The most obvious purpose is to bring

[1] Arthur Parker Hitchens Lecture XIII, The College of Physicians of Philadelphia, 8 December 1969.

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to bear upon each member of the population those medical and laboratory procedures now known to be helpful to the physician in detecting and monitoring disease. This is to say that even without the development of new medical criteria, without any new diagnostic aids, our present techniques can be more widely and effectively applied to detect unknown or untreated disease. The same purpose is served by surveillance of healthy individuals and of patients known to have defined diseases such as hypertension and diabetes.

Physicians can effectively use the same type of multiphasic health testing for their office practice, for preemployment and periodic health examinations, for insurance examinations, and also for preadmission workups of patients to be hospitalized.

To fulfill these specialized purposes and to provide for in-depth investigation of abnormalities revealed during the test period, routine multiphasic health testing should include a fairly large number of more specialized sub-routines, such as examinations of high risk groups.

The present great interest in multiphasic health testing stems from a diversity of purposes based on beliefs, hopes, and concerns, some of which are well founded. Others, I believe, presuppose the existence of certain non-existent information. Here are some examples:

1. *It is believed that there is at present an inadequate application of present techniques.*
   Multiphasic health testing is proposed as the mechanism by which our present medical capabilities in disease detection and treatment may be more effectively and economically applied. This may be true. On the other hand, the present system of physicians' offices, clinics, neighborhood health centers, and other approaches combined with more centralized laboratory services may afford a better utilization of resources. The social and economic consequences of ill-considered choices between alternatives may be serious.
2. *It is believed that technological developments in laboratory and diagnostic apparatus have lowered costs.*
   Undoubtedly, in the last 15–20 years, enormous strides have been made and, in some cases, the cost of a single analysis has decreased significantly. Caution in interpreting this fact must be urged, since the lowered costs have generally resulted only in more tests on any given patient. The increased technological capacity has not been applied to disease detection in populations. Thus, the capability of significantly extending case finding by these means has not been tested. It should be recognized that the requirements and techniques and procedures are quite different for these two applications.
3. *It is believed that technological developments have increased accuracy and precision.*
   Automation has been shown, rather conclusively, to increase precision, or the reproducibility of the results of clinical laboratory tests, when the process is well controlled. This advantage, however, is not an element which accompanies the instrument as an integral part of the product. It is rather a potentiality which can be achieved only by knowledgeable, experienced analytical personnel. The more "sophisticated" analytical instruments, even those more recently developed, depend heavily upon calibration reference materials and standardization techniques of dubious parentage, and these instruments require even greater degrees of professional acumen for accurate and dependable results than do classical methods. The report of the recent symposium on Multiple Laboratory Screening underlines this problem by stating

that the "precision and accuracy of present analytical methods are limiting our ability to use this approach."

What are the beckoning possibilities which multiphasic health testing, or multiple laboratory screening, places before us? First, the possibility that by well organized use of the resources for diagnosis and treatment, a greater number of persons with disease may be diagnosed and treated. Second, the possibility that with earlier detection of disease and more frequent and effective monitoring of disease treatment, the effects of disease on the patient may be minimized. Third, the possibility that this system of coordinated approach to health care may lead to more effective diagnostic tests or to more useful combinations of presently existing laboratory methods. An example of the former is the test of newer methods of detecting breast carcinoma organized by the Health Insurance Plan of New York and, of the latter, the efforts of Files and Lindberg at the University of Missouri.

A number of relatively well defined professional responsibilities are yet to be assumed, discharged, and assimilated into the medical diagnosis and treatment culture before this most intriguing prospect of multiphasic health testing can be regarded as within our grasp. Most vitally important is the improvement of the accuracy and precision of the laboratory methods and other procedures used to accumulate the primary data upon which the physician must base his interpretations.

This next step will be to enter upon the task of defining "normal values" for distinct populations with the variants of age, sex, dietary history, etc., in a way similar to that taken by an earlier generation in defining a "normal BMR." Once the limitations of laboratory error and inadequate definitions of the normal range are removed, we can move on to the next step: the definition of normal values (and their range) for each individual. Deviations from one's own individual values may assume great importance in the early detection of disease. The last step, which is already being explored, is the detection of disease by slight alterations in the pattern of normal relationships between several test results.

These beckoning possibilities are so intriguing and so enticing that we may well overlook, indeed some very influential leaders are presently overlooking, the immense scientific labor and investment necessary to build the required firm foundations. I am very concerned that in our appreciation of the desirability of the more distant goals, we do not fail to see that the very next immediate tasks are begun. Already, the market place is replete with analytical instruments and systems, reagents, and devices inadequately designed and tested which can only deliver information of poorer quality than do the classical methods. There seems to be a philosophy that a large amount of low quality (low in accuracy and/or precision) information is equivalent to a smaller amount of high quality data. Although this view has some validity in establishing true mean values by accurate (if not precise) methods, it is not at all useful for individual patients.

Three more general areas should be mentioned. First, if the amount of information (both laboratory data and other pertinent system review data) is to be multiplied manyfold both by having more patients and by having and keeping more information on each patient, a much more effective system of data handling, storage, and retrieval must be developed.

Second, the need for computer assistance in interpreting medical and laboratory data must be recognized and its use exploited. And, third, the need for effective management and organization of the multiphasic health testing system must be

emphasized. This need for good management practices must be recognized at all levels from the narrow base of the day-to-day operation of the integrated system to its interaction with community health problems. Categories of disease must be given their proper weight and importance in the total concept of community services. Multiphasic health testing systems must be optimized not only from the viewpoint of how most effectively to detect, treat and follow disease, but also from the viewpoint of the individual's total life in the community.

Philadelphia Medicine in 1841 as Seen by a Visiting Physician

By HAROLD J. ABRAHAMS, PH.D.* AND WYNDHAM D. MILES, PH.D.†

MILO LINUS NORTH (1790–1856), B.A., Yale, 1813, M.D. (Honorary), Yale, 1834, of Saratoga Springs, New York, visited Philadelphia in the winter of 1841–42 with the purposes of enjoying the sights of a large metropolis and of enriching his training in medicine by learning and observing. He attended lectures at the Jefferson Medical College and the School of Medicine of the University of Pennsylvania, visited the famous hospitals of the city and sought out the company of its physicians.

Upon his return to Saratoga Springs, he set down his impressions of Philadelphia medicine in the form of three "letters," and submitted them to the editor of the Boston Medical and Surgical Journal, where they were published (Volume xxvi, 1842, pages 5–8, 25–29 and 39–45). He gives as his reasons for writing them, that he had the itch to write, that he had an abundance of free time during the long winter when Saratoga had few visitors, that it was his wish to tell his colleagues in the Northern states something about Philadelphia medicine, and, finally, that he felt "a sense of deep obligation . . . for the professional kindness, liberality and attention bestowed on a stranger by the excellent physicians" of Philadelphia. He remarks: "I do not suppose that my case was peculiar. These men must be in the practice of giving the hearty welcome to those who come in quest of science."

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Facts about Dr. North's life are few in number. He probably studied medicine under a physician and may also have attended medical school lectures somewhere. It is known that he practiced medicine in Hartford in the 1830's and moved to Saratoga Springs in 1839. While practicing in the latter place, he became a most enthusiastic exponent of Saratoga waters, publicizing their virtues in articles in the Boston Medical and Surgical Journal from 1839–41 and in a small book, *Saratoga Waters, or, The Invalid at Saratoga,* which ran through seven editions between 1840 and 1858 and belonged to the genre of other such books by practitioners residing in Saratoga and treating its visitors. At the time of his death on February 22, 1856, at his son's home in Spuyten Duyvil, New York, the editor of the Boston journal expressed the hope that someone would write an obituary notice about him, but an adequate biographical sketch of Dr. North has not yet come to hand.

North's impressions of teachers and of the social customs of physicians evoke a picture of the old Philadelphia medical scene that is not described in formal histories and biographies. His chatty, personal recollections give a view of Philadelphia medicine as it existed one and one-third centuries ago.

Below are reproduced Dr. North's "letters," omitting only those portions which do not illuminate his impressions of Philadelphia medicine of his day. The letters capture some of the spirit of nineteenth century medical Philadelphia and thus constitute a worthy eye-witness account of some of the phases of medicine in the middle decades of that century.

On Wednesday, 27th October, 1841, I took up my residence for the first time in the City of Brotherly Love, at a private boarding house, corner of Eighth and Walnut. Although I was furnished with several introductory notes in New York, I first sought some of my invalid acquaintances, and through them their family physicians. As my *real* object, however, in visiting the city was the acquisition of medical science, whether gained in private conversations, lectures, hospitals, libraries, museums or medical clubs, I soon abandoned all formality, and without hesitation made my own introduction when it was not perfectly convenient to obtain the medium of others. As my name and residence had become generally known to the physicians through the frequent visits of their patients to the Springs, credence was readily obtained, and thus needless formality avoided. During an abode of three weeks, I was made unceremoniously a guest in the families of several, and at many of their private libraries and offices, and was admitted to various hospitals and to courses of public and private medical instruction. I was also politely invited to several medical and scientific clubs, of which it may be proper to speak in this place.

All the Medical Clubs I attended were very similar. Some dozen medical men associate and meet once a week at each others' houses in rotation, after the labors of the day are over. The interview occupies say from 8½ to 10½ P.M. The only absolute rule that was apparent was that the refreshments should be rigidly limited as to variety. Cakes, coffee and tea and biscuit comprised the whole. This, having been long and fully settled, exempts the family from trouble, and leaves the host entirely at his ease and enjoyment. Indeed there is not the least awkwardness nor embarrassment in the host's attending to an incidental call. These circles were the scenes of easy medical and scientific chat, without stiffness or any sort of friction from regulations; a place of relaxation and mutual information respecting the subjects that would naturally interest a set of scientific professional men. The friendly feelings generated and enhanced by these meetings must serve greatly to lighten the anxieties and cheer the labors of the members of the circle. There was not the least formality and no organization. Each one came and went without ceremony.

I am thus particular respecting these clubs, because I have long been an advocate of their use in other cities and villages. There is scarcely a village so small in New England that some dozen men might not spend a couple of hours, once a week or fortnight, in unceremonious conversation on miscellaneous subjects. In cities, physicians can do this. It cannot be denied that many clubs have failed. But, on inquiry, the cause of failure will be found in nearly every instance in the one fact that the entertainments were not limited, exactly and scrupulously, at the commencement. This fault is not chargeable to the selfishness, but the generosity of the members: and if their families were never sick, nor servants difficult to be procured, the failure would not occur.

The Wistar Parties in Philadelphia are held every Saturday evening through the winter, and are on a different basis. No person can be a member unless previously a member of the American Philosophical Society. This renders it, "per se," a society of distinction. They meet from house to house, each member bringing a stranger of proper character if he chooses. No ladies attend. Among the distinguished Philadelphians present, I was proud to see a very full representation of our own profession. The supper table was very sumptuous for a scientific body, and I deeply regret to say that various kinds of wine are yet placed on the table. Would these noble-looking men, with their bright faces, eloquent lips and glowing sentiments, be

more likely to withdraw from these social gatherings if the wine should be dismissed and the multiplied hospitalities of the supper table be reduced to a simple repast? Do I wrong these men, to whom I stand indebted as an obliged guest, by supposing that, if the secret thoughts of all their hearts could be read, it would be found that these fellow citizens of Franklin disclaim all connection between wine and science, and heartily wish them divorced?

Before dismissing the subject of clubs, indulge me in saying a word about a medical association in Hartford County, Conn. About 17 years since, several high-minded physicians in that county constituted themselves into an election society under the name of the Hopkins Medical Association, to embrace all in the vicinity who seemed worthy and desirous of membership. The terms of election were made so rigid that it was next to impossible for a dishonorable man to gain admittance. They have met ever since, once in four months, or three times a year. At first they went from house to house in rotation. But the remoteness of some of the meetings from the city, the occurrence of an occasional stormy day, and the liability of sickness in the family of the host, nearly destroyed the club.

At this juncture an intelligent manager of a public house in Hartford, considering that, owing to the peculiar engagements of physicians, the distance of many, and stormy days, he could scarcely have an average attendance of over half of the enrolled members, offered to give them a plain, substantial supper three times a year for one dollar a member per annum! By this arrangement the public house receives say forty dollars a year for about as many meals, and some pretty little perquisites from horse-keeping, &c., so that they have given the club a large sitting room and a meal three afternoons a year for several years, and have never complained. This arrangement could only have been accomplished in Yankee land, but there it may be done in many other cities and villages: and if both parties are as happy as they have been in this case, they never will regret the undertaking. The elective nature of the Society has had a palpably beneficial effect on the profession out of the club, in restraining them from dishonorable practices; and those within are clearly much benefited by the social and scientific exercises of the club. Each meeting has an organized session before supper, devoted rigidly to medical discussions and improvement: social pleasures succeed. I commend this Society to the consideration of the leading men of our profession in the many localities in our country that are populous enough to admit of such association.

But, omitting the further discussion of clubs, let us pass to a different topic; viz., the *comparative respectability of the medical profession* in Philadelphia. I admit, most fully, the fallacy of first impressions. I know how differently men and things appear after a year's acquaintance and observation. Still I am confident there can be no cause for reconsideration in asserting that our profession hold a very high rank in that city. Consider that there are three flourishing medical colleges in the very heart of the city, and near each other, either of which would stand high in any part of the country.[1] About the first of November from seven hundred to one thousand medical students and strangers are, all at once, to be seen traversing the streets and inquiring for the various medi-

[1] The three schools were the School of Medicine of the University of Pennsylvania, Jefferson Medical College, and the Medical Department of Pennsylvania College. The medical school of the last-named college lost its independent existence when it merged with the Philadelphia College of Medicine in 1859, although the name was retained by the school which resulted from the merger. The new school, likewise, became extinct shortly thereafter. (See Abrahams, H. J.: *Extinct Medical Schools of Nineteenth Century Philadelphia.* University of Pennsylvania Press, 1966.)

cal offices. This noticeable influx of strangers makes its proper impression on the citizens. It is a matter of commercial and social interest. These students scatter into many families, and medical men and medical subjects become legitimate matters of discourse. They spend the winter, and leave to the boarding-houses, lecturers, booksellers, merchants, private teachers, &c. &c., many thousand dollars. Even strangers can see that medicine is a subject of general interest in Philadelphia. When comparing these flourishing medical schools with literary colleges, law schools and theological schools, the difference often appeared marvellous. What other distinctions has this city achieved except in medical science? But, here, all is enthusiasm—all spirit. Even men who are not public lecturers, receive large sums for private instruction. To accommodate students rooms are handsomely furnished with libraries, apparatus, models, &c., in various parts of the city, and thus a promising corps of future lecturers are already in the harness. If we inquire how came the Philadelphians by these substantial perquisites, the answer is obvious; that it was because a band of distinguished medical men, whose names are familiar to all, took the lead of the whole country in medical instruction, and have managed, by means of their excellent institutions and successors, to keep it. This is the simple and undoubted reason. Professor Chapman said, in his introductory, that no European physician could gain solid footing in Philadelphia until he had abandoned all pretensions to curing his patients by foreign systems, and had adopted the prevailing practice of the city.[2]

And medical students that go abroad are forced to abandon mustaches, foreign frippery, and foreign systems, on their return, and adopt the methods and costume of home.

The dress, equipage and household arrangements of the physicians of Philadelphia comport with the elevation of their character. Indeed, from a slight acquaintance in Boston and New Orleans, and a very considerable one in New York, I think the medical men of Philadelphia are rather obnoxious to the charge of paying too great attention to these things. Their fees are very moderate, and complained of by themselves. I was told repeatedly that scarcely any man, however distinguished, charges over one dollar a visit in ordinary practice. This is the regular charge in such places as Albany, Troy, Utica and New Haven. In New York and Boston, men of similar distinction charge decidedly higher: one dollar and a half in Boston and two dollars in New York being the common charge of fashionable practitioners. It should be added that there are men in both these cities whose services are rewarded at a much higher rate, and justly; for the plain reason that men of inferior talents and responsibilities in other employments are compensated much more liberally than themselves. It did not destroy Sir Astley Cooper's acknowledged liberality in his profession that he accumulated a fortune.[3] And who would think the worse of the distinguished men of Philadelphia, who have, by ardent toil and laborious perseverance, made their services

[2] Nathaniel Chapman (1780–1853), who was descended from relatives of Sir Walter Raleigh, took his M.D. at the University of Pennsylvania (1800), then studied in London and Edinburgh for three years. It has been written of him that, after Dr. Physick, "he was the acknowledged head of the American profession."

Introductory lectures were lectures given before the actual date of the opening of a school year. These lectures provided prospective students with an opportunity to hear some of the professors of the different schools speak, then choose the school which they preferred. A further statement about such lectures appears at about the mid-point of these letters, below.

[3] Sir Astley Cooper (1768–1841) had perhaps the largest practice of any surgeon. In one year he earned £21,000. He received one fee of a thousand guineas from a rich West Indian planter.

indispensable to their wealthy neighbors, should they lay up a few thousands for old age? Is there any reason in the world why a physician or surgeon who renders services of an extraordinary value should not be compensated precisely as a lawyer or a merchant is in the same case? If an Astor or Girard could add a farm to his possessions by one mental process, should not a Physick or a Mott receive extra compensation for an equally supereminent, intellectual exertion?[4] If every body says it is right for Daniel Webster to be munificently rewarded for securing, perhaps, an estate to a family by his great legal knowledge and power, shall it be pronounced mercenary if his neighbor, Dr. Warren, should receive a like generous gratuity for rescuing from death some beloved member of a family by his surpassing medical skill? I truly cannot perceive the difference. Oppression and hard-fisted exactions in our profession I deplore. Among the little or the great, they are an abomination. And, whenever a physician finds himself grasping at a higher *annual* amount of compensation than men of equal talents receive in other employments, he may be sure he is wrong, and will be likely to bring reproach upon his own profession.

Constituted, however, as our ranks are, with at least double the number of practitioners needed in our country, the power of competition must repress extortion and forbid the hope of wealth among the members in general. The late Dr. Miner, of Middletown, Conn., used to say that four hundred dollars were an annual average income for the physicians in that county.[5]

[4] Philip Syng Physick (1768–1837) has been called "The Father of American Surgery." He taught at the University of Pennsylvania from 1805 to 1831.

Valentine Mott (1785–1865) taught surgery at the College of Physicians and Surgeons of Columbia University and at Rutgers.

[5] Thomas Miner (1777–1841), medical editor, translator and writer, was said to have been one of the most learned physicians in New England in his day.

The statement appears scarcely credible when it is remembered that each one must keep his horse and equipage. To those only who know something of the "get-along-ity" of the Yankee character, and the collateral aids they can secure, will the statement appear other than fabulous. . . .

Permit me in the next place to call the attention of your readers to the MEDICAL LECTURES of Philadelphia. To every physician who visits that city, these lectures cannot fail to be a matter of commanding interest. Every chair was filled during my residence there, and the professors in each of the three schools seemed, to aught that met the eye of a stranger, to be quite harmonious. After a most careful scrutiny and watching for the developments of character in my brethren who are thrown into the very rare position of three collateral faculties, almost within stone-throw of each other, appealing to the same public, commencing the same probationary exhibition of themselves in their introductories, on the same week, to hundreds of candidates who have not yet decided which faculty to patronize, depending on the impression they make on the young gentlemen what success each school is to share; under the excitement of all these caustic stimuli, I must say that, in the mass of these professors, I admired the magnanimity of their emulation. I said—"depending on the impression they make." I do not intimate that the impression from an introductory is final or omnipotent. The reputation of the Colleges and of their respective diplomas, has unquestionably more influence than the introductory lectures. But how long would the reputation of either faculty be predominant if its members should become remiss and repose on the laurels they have already acquired?

In judging thus favorably of Philadelphia competition, I do not profess to go behind the curtains. I purposely ground my remarks on what comes up to the eye of a stranger. Yet I strongly believe that, had

there been much dishonorable juggling, trickery and finesse, in inveigling students from abroad to this office or that—to this or the other institution—it would have been apparent to the eye even of a stranger, who was admitted with the same freedom to their offices. I saw no such appearance. The style of the lectures, too, was generally of the right stamp. There was manifest, occasionally, an over attention to the turn of a period, to the polishing of a sentence, and to the introduction of sparkling thoughts. In one or two introductories, I thought there was something slightly theatrical in the manner of delivery. When we consider that, at each of the introductories, there are always enough auditors present, who have decided to belong to the same school with the speaker, stoutly to applaud by stamping with their canes, it is greatly to the credit of the lectures that they so uniformly prefer the solid, useful and instructive, to the brilliant and farfetched.

The introductory of Professor McLean, of the Jefferson College, was a thing wholly unique, and defied all classification.[6] He appeared at his appointed hour in the amphitheatre, pale, emaciated and tremulous, from several weeks' severe prostration from malaria, encountered in his professional engagements on the banks of the Schuylkill. The lecture was in manuscript, as I believe were all the introductories. It was his first from the chair of a college. He first pointed to his auditory the faculty of the old college, many years ago, during his medical pupilage. The person, costume, manner and mode of lecturing of each professor was described so minutely that the various portraits were left with great distinctness on the memory. The large and attentive audiences of former days were depicted, and the deep silence and veneration of the pupils brought before us in glowing colors. In reverting to himself and to his own class, he compared the acquisition of medical skill to the pursuit of the diamond. A thousand blows and many prolonged toils are required to break up the quarry; but when the gem was won and fairly placed on the brow, its distinguishing lustre could not be concealed nor obscured. So the deep-laid foundations of medical skill would be visible in a man's daily performances. As his chair was that of Midwifery, he illustrated the want of this diamond—genuine preparedness for the various emergencies of the practice—by introducing the young physician to his first important obstetrical case. He described minutely the young lady, her family, education, marriage, and her elegant mansion and apartments when settled in life and awaiting her confinement. He took his auditors into her private apartment and showed them what no man, not even her husband, had really seen, her drawer, her preparations, her dresses, &c., prepared for the little stranger. At length the nurse and doctor arrive, and the patient is examined. "All well." After some hours the face of the patient becomes flushed, the complaints are more urgent, the hand is frequently pressed on the head, and the usual expression, "I shall die," is heard. All these things appear common to the medical man. "But," said the lecturer, "did you hear her say 'my head aches'?" "No, you did not hear her say 'my head aches.'" From not observing this small circumstance, puerperal convulsions follow and death closes the first important case of the

[6] The name McLean is, apparently, a misprint for McClellan, probably caused by the inability of the editor of the *Boston Journal* to decipher North's handwriting (typewriters had not yet been invented). Samuel McClellan (1800–54) was Professor of Anatomy (1830–32) at Jefferson, and then, until 1836, held the chairs of Institutes, Jurisprudence, and Midwifery, and later the chair of Obstetrics and Diseases of Females, until 1839. Thereafter he engaged in private practice. Dr. North must therefore have attended his lecture a few years before the date of these letters. (See Gayley, J. F.: *History of Jefferson Medical College*, Philadelphia, 1858).

young candidate for popular honors and employment, not wearing on his person the aforesaid diamond of professional skill. The description of this scene was so graphic that, though most of it was perfectly common, I cannot resist inserting this very lame representation, although at so great a distance of time. I do not know that Dr. M. will ever again attempt this graphic method. It certainly would not bear it frequently. Yet I do not believe that any of the introductories were heard with more deep abstraction than this. Towards the conclusion, he told the young men he would give them a secret. "Make yourselves useful, make yourselves necessary by the undisputed benefit of your services, and you may dismiss your fears about employment in any business." From the *irruption* of quotations from ancient and modern languages, it was evident that in the midst of a pressing business in the city, he contrived to preserve an intimacy with his silent companions on the shelves of his study.

There was one more lecture among the introductories, of a very different character, but equally *sui generis*, and more surprising. It was the very lecture, a part of which you have already re-printed in your Journal. Dr. Gibson's Introductory evinced a head that could plan and execute, and a heart that had the courage to ordain, laws for himself.[7] The common conventionality of authors and lecturers were as cyphers in his estimation. He proposed for his subject his own autobiography, not only without acknowledging anything improper or unusual, but with the declaration that if a man did not publish his own merits nobody else would do it for him. He began with his early life, and conducted us to the day and hour of the lecture. It was an interesting biography, particularly to a medical class: and had it been told by another, it would have been heard with unmingled pleasure and admiration. During its progress, I made many efforts to divest myself of all former notions of propriety, and to make myself believe that the man who had achieved such things in the surgical and medical world, and who evinced such undeniable proofs of genius, had not misjudged in striking out a new course for himself in interesting and instructing his class; and, although I have recurred many times in my recollections to the mingled emotions of amazement and applause which I experienced while hearing that lecture, I am still undecided whether Professor Gibson, in addressing six or eight hundred young men, many from the South and West (himself being a Baltimorean), did not gain as much by his unparalleled boldness and adroitness as he lost by his egregious aberration from the rules of modesty. I am sure Professor Gibson would not be offended should this sheet ever meet his eyes, because there was no concealment about his lecture. Its scope was explicit, avowed, without apology; nay, has been submitted to the public, I know not with what modifications by means of the press. He closed his lecture by a labored and most ingenious representation of the advantages of the venerable Institution in which he occupied the chair of surgery.

I purposely limit my specification of the lectures at the Colleges to these two. It would be very agreeable to enlarge on the varied excellences of these annual introductories; but it would be taking liberties with your pages entirely inadmissible.

I shall trouble your readers with one more topic, and that is CLINICAL LECTURES. In this particular, Philadelphia certainly stands pre-eminent. I know from personal inspections, often repeated, that

[7] William Gibson (1788–1868) studied at the University of Pennsylvania, Princeton, and the University of Edinburgh (M.D., 1809), was one of the founders of the University of Maryland Medical School, and was professor of surgery at the University of Pennsylvania (1819–55).

the New York Hospital has many advantages for clinical lectures. The Boston Hospital, too, from its excellent arrangements many years ago, I must suppose to have kept on in the march of improvement. But the Blockley Almshouse, on the west side of the Schuylkill, contains a pauper population of from two to four thousand; and among these, I was repeatedly told that four hundred patients is a low number, exclusive of the maniacs. Imagine all these to be lodged in one range of buildings, on moveable beds; and on the same floor with these wards, and in a central position, a very large amphitheatre constructed with every contiguous convenience for operations and exhibitions, into the centre of which the patients can be brought with perfect ease on their beds. Suppose, moreover, that the whole of these patients are divided between the University and Jefferson College, each of which Institutions has its own resident and consulting physicians and surgeons; and that these men, half on Wednesday and half on Saturday, select from their respective wards such groups of diseases as are most interesting, and exhibit them to their classes with the accompanying prescriptions and operations. Can such an arrangement fail to be useful? I have occasionally mingled in the groups of a clinical lecture, standing among the beds of the patients in a hospital. This is well when the circle of pupils is small. But at the Blockley, by means of the amphitheatre and the blackboard, two hundred can share very well the advantages of a clinical lecture. While sitting in their seats, after the patients are carried out, the specimens of morbid anatomy, the result of recent dissections, are passed round to the students, who can examine them thoroughly without the hindrance of the dissection, and contrast them with what they previously saw and heard of the disease. At each session about three hours are spent; one half devoted to the surgical and one half to the medical clinique. The respective institutions are not confined to their own public lecturers in selecting a man for the clinical chair. At the time of my visit Dr. Gerhard was giving the medical clinique in the chair of the University or old school, at the Blockley Hospital, which post entitles him to the superintendence, as a consulting physician, of one half of all the medical cases in the institution.[8] This appointment was no leap in the dark. I cannot resist saying that I have never seen a physician who, I should fancy, would more resemble Dupuytren, in his habit of investigation, than this same Dr. Gerhard.[9] I should imagine he had long taken up his abode in the hospitals of Europe. Like many of the medical aspirants of Philadelphia, he has served his time among foreign hospitals, and, I believe, by the side of Dupuytren. Slender and erect in his person, with a keen eye, and a face undoubtedly made thin by the midnight lamp, he assembles his group of patients in the middle of the theatre, with his auditors on seats rising around him, gives a clear and succinct description of the disease, enters most fully into its pathology, and with a familiarity and comprehensiveness that would surprise many a veteran practitioner who listened for the first time to a clinical lecture, comes up boldly to the diagnosis, specifying the seat and extent of the lesion, and clearly distinguishing it from its counterfeits; evinces no reserve nor dodging while on the prognosis, and discusses the *methodus curandi* on a basis evidently eclectic and rational, and drawn from prolonged and accurate observations of

[8] William W. Gerhard (1809–1872) was educated at Dickinson and University of Pennsylvania (M.D., 1830). He studied medicine under famous French physicians in Paris and from 1834 was resident physician and later visiting physician of Philadelphia hospitals. At the time of North's visit he was assistant professor of institutes of medicine at the University of Pennsylvania.

[9] Guillaume Dupuytren (1777–1835) was a famous French surgeon, well-known to American medical students studying or visiting in France.

the multifarious plans in Europe and America. Bating a slight bearing which I thought was apparent towards the expectant method of the French, the therapeutics of Dr. G. appeared to be such as our best practitioners in Boston, New York and Philadelphia would approve. So compressed and rapid are his statements and reasonings, that you have no chance for idling, but are dragged on, on to the end; and you then feel that there is much that the young gentlemen must inevitably lose from their want of previous clinical experience and practical acquaintance with the subjects discussed.

From attending a single clinical lecture of Dr. Pancoast, from the Jefferson College, I think he may be set down as the opposite of Dr. Gerhard.[10] Dr. P. is prolonged, exact, particular; and seems resolved that his pupils shall never forget the facts of the disease in question, and the steps of his operations. These lecturers are both good, but yet very different in method.

Of Dr. Gibson, the collaborator of Dr. Gerhard, I have already spoken. Surgery is his passion, I am told, and he is quite at home and unembarrassed before the class. I incidentally learned that some of his pupils were offended and indignant at some of his moral allusions and intimations respecting their own tastes and habits while lecturing on the venereal disease. As I entered the room after the lecture commenced, I did not hear the offensive expression; and from Dr. Gibson's high and commanding qualities, both as an operator and lecturer, I will not believe that he would mar those shining talents by the exhibition of the underworkings of an impure heart. In a medical man it is bad enough, in all conscience, to be sure that you discover in him the turbid workings of internal defilement. But when a man of solid talents and high acquirements is understood to discover a relish for obscenity, and a desire to inflame rather than repress the head-strong promptings of young men, removed from the restraints of mothers, sisters and acquaintances, and thrown loose upon the purlieus of a wide city, it becomes us to pronounce the whole a mistake. How improbable that Dr. Gibson, in Physick's own chair, obtained by dint of his own merit, and retained by general consent, and feeling a strong desire for the honorable career of his pupils, should so far mistake his policy and his duty in lecturing to the north and south, east and west, as to allow one breath of suspicion to fall upon the purity of his taste or the integrity of his intentions.

As I have named three of these lectures in the Blockley Hospital, permit me to introduce for one moment the only remaining one, Dr. Dunglison, of the Jefferson Medical College.[11] There can be no mistake in saying of Dr. Dunglison's medical pursuits, he is "*totus in illis.*" In addition to his private pupils and private practice, he promptly fulfils his hour four times a week in the College, and has the supervision of half the Blockley Hospital, besides his weekly lecture there. These, with the common et ceteras of a city life, would keep a man tolerably busy. But, in addition to this, he writes more books, as your readers well know, than any monk with the world shut out could originate; books, too, that the medical world demand to be reprinted again and again. "*Labor, ipse voluntas.*" It is evident, Mr. Editor, that while the rest of us are asleep, this man is wide

[10] Joseph Pancoast (1805–1882), educated at the University of Pennsylvania (M.D., 1828), was physician to the Philadelphia Hospital, professor of surgery at Jefferson, from 1838 to 1847, and professor of anatomy from 1847 to 1874.

[11] Robley Dunglison (1798–1869), born in England, studied medicine in Edinburgh, Paris, London and Erlangen, came to the United States at the invitation of Thomas Jefferson to teach medicine at the University of Virginia, later taught at the University of Maryland and, when North visited Philadelphia, was professor of the institutes of medicine at Jefferson. Dunglison's name was familiar to generations of medical students through the many popular books he wrote.

awake at his nocturnal labors; and yet he has the personal appearance of a well-fed, easy, plump, care-shunning body. Professor Dunglison's lectures are delivered with rapidity and clearness of enunciation, and I need hardly say they are rich and instructive.

It should be said, that, in addition to the Philadelphia Hospital, over the Schuylkill, just described, the original Pennsylvania Hospital yet remains in its excellence in the very heart of the city. So silent and clean and airy are its apartments, so urbane the officers and medical attendants, that I often felt constrained to loiter and seek retirement in the deep seclusion of its walls. Indeed, had I been taken sick in the city, I am almost certain I should have applied for one of its private apartments. It is scarcely possible for a public house to afford you equal comforts. The establishment occupies a whole square, and it is as still as a lodge in the wilderness. A change of medical officers occurred during my visits, and in addition to the requisite medical skill, these gentlemen, one and all, resident and consulting, manifested to me the most uniform kindness and urbanity. Capt. Marryatt and other Europeans have denominated the Blockley establishment the "beggar's palace," and none who have seen it can deny the propriety of the cognomen.[12] But this old Hospital, with Penn's statue in bronze in the front yard, its tall ceilings, wide halls, ample library and apparatus, and all things so quiet and dignified, and even sylvan, is fit to be called the nobleman's nursery. Although the wards are not now very full, the mass having been consigned to Blockley, yet even now there is an interesting field for pathological research and observation. The same mode of visits and lectures exists here as at Blockley, this institution being the prototype; excepting that the clinical lectures are delivered here by the bed-side.

Besides these two great institutions already described, there are I know not how many private institutions, dispensaries and specialites. I visited several, and found them cooperating in the great business of medicine. In short, the business of teaching and lecturing seems to be the favorite employment of the profession. There may be twice as many out of the three Colleges giving lectures and instruction as within them. Some may do this simply for its emoluments, or from attachment to the business. Yet there *are* three rows of professional chairs in plain sight, any one of which would be a post of honor to the younger members of the profession. In this way the Colleges, although they are not limited to Philadelphia, have a corps of candidates under their daily observation.

We see, then, that the foundations of medical science are deeply laid in this city, that its fame and emoluments are eagerly sought by men of commanding powers, and that their rewards are of no stinted character. For many years medicine must, in the nature of things, stand prominent in the City of Brotherly Love. She has disciples who toil over the midnight lamp through the love of their calling and a desire to see it exalted: from many such I have received, and beg to acknowledge, the cordial welcome and the liberal interchange of professional opinion; and I ask permission, in conclusion, to say that, could many of my readers, who have been absent from schools and lectures many years, spend two or three weeks—nay, a winter—in a medical pilgrimage to Philadelphia or other of our flourishing schools where clinical lectures could be attended, they would in my opinion find the sacrifice greatly to enhance their future respectability and usefulness.

[12] Frederick Marryat (1792–1842), a captain in the British navy and a novelist, visited the United States in 1837–38 and published his impressions in *A Diary in America, with Remarks on its Institutions* (1839).

Memoir of S. Jervis Brinton 1892–1969*

By FREDERICK C. SHARPLESS, M.D.

S. JERVIS BRINTON was born on September 2, 1892 and died on September 19, 1969. He had four uncles who served in the Civil War as surgeons, one of them as Surgeon General in the Army of the Potomac. His father was an M.D. and encouraged his son to become a doctor. Jervis attended George School and then Swarthmore College for three years. He was graduated from the School of Medicine of the University of Pennsylvania in 1920, his course having been interrupted for a short term of service in the United States Artillery.

In 1922 he married Edith Virden Ketcham of Chestnut Hill and there were two children, Jervis, Jr., and Ann Raab Brinton, and seven grandchildren.

He began general practice in Ardmore, Pennsylvania, after two years as an intern in medicine and obstetrics. He then became Instructor in Medicine in the University of Pennsylvania Graduate School and Attending Physician to the Bryn Mawr Hospital, where he later became consultant Physician. At various times he was President of the Main Line Medical Society, Chairman of Medical Defense for Lower Merion Township, and a member of the Medical School Board, during which service he was instrumental in founding legislation for the compulsory vaccination of students against diphtheria. For these two latter services, he received medals. He was a member of The College of Physicians of Philadelphia, the American Medical Association and the Merion Golf Club.

Dr. Brinton's first wife died in 1954. In 1956 he married Phillippa Queen of New York and Washington, D. C. In 1960 he underwent surgery by Dr. Michael E. DeBakey, who replaced a large section of the aorta with a woven dacron tube. The operation was followed by serum hepatitis, a result of many blood transfusions, which endured for four years. After retirement, Dr. Brinton lived in Avalon, New Jersey, and Palm Beach, Florida, and attained prominence as a skillful golf putter.

No account of him would be complete without mention of his pleasing personality, his continuous good humor, and his capacity for friendship which endeared him to all who knew him.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of John Westgate Hope 1914–1969*

By C. EVERETT KOOP, M.D.

JOHN WESTGATE HOPE died at the Hospital of the University of Pennsylvania on June 13, 1969, a victim of a disease around which much of his professional life was centered. Few men have ever been as gifted as Dr. Hope in the management of grieving parents whose children faced inevitable death from cancer.

Dr. Hope was born in Chicago, Illinois, on May 6, 1914, to Reginald and Dorcas Hope, who subsequently moved from Chicago to Coronado, California.

Following graduation from Stanford University in 1936, Dr. Hope entered the Medical College of the same university and, after graduating therefrom, served residencies in pediatrics and in radiology-pathology at the Stanford Medical Center from 1940 to 1942. He then served in the United States Navy from 1942 to 1947, leaving the service with the rank of Lieutenant Commander. He came to Philadelphia in 1947 to take further radiologic training under Eugene P. Pendergrass at the University of Pennsylvania School of Medicine and in 1951 became Radiologist-in-Chief to The Children's Hospital of Philadelphia. He had joined the faculty at the University in 1951 as Assistant Professor; from 1966 until his death he was Professor of Radiology in the University's School of Medicine.

John Hope was thrust into the midst of a developing specialty in pediatrics and accepted the challenge as a pioneer engaged in finding new techniques in the examination and treatment of children by radiologic means which have now become time-honored throughout the country. He had a remarkable ability for anecdotal teaching and as he unfolded the clinical history centering about the films he was about to demonstrate, the listener could capture a remarkable picture of a clinical entity radiographically proven and not soon to be forgotten.

Although his teaching abilities took him many places in this country and abroad, John Hope became one of the stalwarts of the staff of The Children's Hospital where he was not only the father figure to many of the younger staff men but also an available counselor to the families of the chronically ill children for whom his sympathy was always real and never assumed.

Dr. Hope was a diplomate of the American Board of Radiology and a member of the Radiological Society of North America and of the American Roentgen Ray Society; a fellow of the American College of Radiology; a past president of the Society for Pediatric Radiology; and secretary of the Inter-Society Committee for the Registry of Radiologic Pathology of the Armed Forces Institute of Pathology. He served as consultant to the latter organization, as well as to Philadelphia General Hospital, Jeanes Hospital, U. S. Naval Hospital and the U. S. Veterans Administration Hospital, and Mercy-Douglass Hospital. He was a member of Phi Beta Kappa, Alpha Omega Alpha, Sigma Xi, the John Morgan Society, the Blockley Radiological Society, and honorary or affiliating member of a number of professional societies abroad.

He is survived by his wife, the former

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Mary Crane, and by a son, William Aborn Hope.

Endearing himself to countless residents who rotated through The Children's Hospital for his unique teaching, he was held in high esteem. One group of retiring residents presented him with a plaque which expressed in pun form what many of us came to believe: "To Dr. John Hope, the greatest hope for little people."

Memoir of David Warren Kramer 1890–1969*

By HAROLD L. ISRAEL, M.D.

DAVID WARREN KRAMER, born November 15, 1890, in Philadelphia was graduated from Jefferson Medical College in 1912. He interned at Philadelphia General Hospital. His subsequent medical career was largely devoted to these two institutions.

After service in World War I in the Medical Corps of the British and United States Armies, Dr. Kramer was appointed Assistant Visiting Physician on the medical service of his mentor, Dr. Solomon Solis-Cohen, at Philadelphia General Hospital. He became a chief in 1939 and an honorary consultant in 1956. Dr. Kramer served as President of the Medical Staff in 1952 and 1953.

His two absorbing interests were diabetes and peripheral vascular disease. He organized the diabetes clinic at the Jewish Hospital and the vascular clinics at Philadelphia General and Jefferson Hospital.

Dr. Kramer was on the faculty of Jefferson Medical College and became Associate Professor of Medicine in 1948. In 1962 he was honored by the Delaware Valley Diabetes Association, receiving the J. Howard Reber Memorial Medal. Author of more than 50 papers on diabetes and vascular disease, he served on the editorial board of Angiology.

His personal life was repeatedly marred by tragedy: his first wife died in childbirth, his only child died of breast cancer, and his second wife died after prolonged illness.

Dr. Kramer continued his practice at 2007 Pine Street until shortly before his death in Jefferson Hospital on May 13, 1969.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of Eugene A. Meyer 1903–1969*

By ORAM R. KLINE, M.D.

EUGENE A. MEYER, M.D., was born on August 30, 1903 in Philadelphia, Pennsylvania. His father, Eugene E. Meyer, a native of Frankford, Germany, came to the United States in his late teens. Dr. Meyer's family later moved to New Jersey and he attended the Palmyra High School, where in addition to being a satisfactory student he was a popular football quarterback.

He received a B.S. degree from Hahnemann College of Science in 1923 and an M.D. degree from Hahnemann Medical College in 1927. After graduation he married Ida Hafner, served an internship for one year at West Jersey Hospital and then started general practice in Moorestown, New Jersey. Soon after starting practice, he began work in otolaryngology which he assiduously pursued and which enabled him to become certified by the American Board of Otolaryngology in 1936. In June 1942 he entered the United States Army as a Major and was honorably discharged in March 1946.

He was chief of the Ear, Nose and Throat Department of West Jersey Hospital for thirty years until illness forced his retirement. He was a member of the following professional societies: The American Academy of Ophthalmology and Otolaryngology, the American Medical Association, West Jersey Medical Society, Camden County Medical Society and The College of Physicians of Philadelphia.

Golf was his favorite sport and he excelled in this as he did in most things he attempted, being golf champion of the Riverton Country Club at one time. He also had other interests that demonstrated his versatility. His beautiful naturalistic garden contained many rare and unusual wild flowers. He was prominent in societies for preservation of American wild life and natural resources. He also was interested in music and literature.

Dr. Meyer died August 7, 1969. He is survived by his wife and three children, Betty, Eugene A., Jr., and Mrs. Joan M. Jackson. They all reside in Medford Lakes, New Jersey.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

Memoir of George Gordon Snyder, Jr. 1908–1969*

By THOMAS F. FURLONG, JR., M.D.

BORN on September 30, 1908, at Rosemont, Pennsylvania, the son of George Gordon Snyder, Sr., and Elizabeth Anderson, G. Gordon Snyder, Jr., received his undergraduate education at Villanova University and his medical training at Temple University School of Medicine. He served his internship at Bryn Mawr Hospital and took post-graduate training at the University of Pennsylvania Graduate School of Medicine, Lempert Institute of Otology in New York City, and Columbia University Medical Center.

Dr. Snyder was appointed to the Attending Staff of Bryn Mawr Hospital in 1936. He served as Assistant Otolaryngologist from 1936 to 1938 and as Assistant Attending Otolaryngologist from 1938 to 1954. He was appointed Chief of the Otolaryngology Service, Department of Surgery, in 1954 and held that position until his sudden death on March 21, 1969. Dr. Snyder served on many committees of the Medical Staff, including the Executive Committee. The affection of his colleagues and their respect for his skill in his specialty was expressed by their action in electing him Vice President of the staff in 1965.

Dr. Snyder was also associated with Misericordia Hospital as Associate Attending Physician in Otolaryngology. He was a member of the Courtesy Staff in Otolaryngology at Paoli Memorial Hospital. He was Assistant Professor of Otolaryngology at Temple University Medical Center.

Doctor Snyder was a member of many medical societies, including the American Medical Association, Montgomery County Medical Society, Pennsylvania Medical Society, the American Academy of Ophthalmology and Otolaryngology, the Pennsylvania Academy of Ophthalmology and Otolaryngology, The College of Physicians of Philadelphia, Philadelphia Laryngological Society, the Pan-American Medical Association, the Pan-Pacific Surgical Society, the American Society of Facial Plastic Surgery, the American College of Surgeons, the International College of Surgeons, the American Laryngological, Rhinological and Otological Society, and the Royal Society of Medicine, London.

Dr. Snyder was devoted to his profession and the welfare of his patients. He took great pride in his work, striving constantly to improve himself with post-graduate studies. His surgical technique was undoubtedly that of a master.

It was my privilege to know Gordon Snyder both as a next door neighbor and as a professional colleague for many years. He was a devoted family man and is survived by his wife, the former Lillian Graham, a daughter, Jacqueline, and a son, Dr. G. Gordon Snyder, 3rd, now in his fifth year of studies in otolaryngology in New York. Dr. Snyder was extremely proud that his son was to follow in his footsteps in otolaryngology.

Gordon will be remembered with great affection. His good humor, quick wit and gaiety made him extremely popular and almost belied his great compassion for those in need. We all lost a great friend, one whose life was truly dedicated to otorhinolaryngology.

* Prepared and published at the request of the Council of The College of Physicians of Philadelphia.

President's Address: The College of Physicians of Phildelphia*

By FRANCIS C. WOOD, M.D.

The bylaws of the College state that—among the duties of the president—he shall deliver an annual address at the meeting in January.

I have kept the Fellows informed throughout the year by my letters, telling of our activities, so I will not need to say much tonight.

I want to mention only a few outstanding items in our progress during the past year.

1. Our administration is in good trim, under the wise and kindly guidance of our Executive Director, Dr. W. Wallace Dyer. The enjoyment of being President is dependent primarily on the fact that you no longer have to keep everything in mind or in order, nor do you have to have any imagination or good ideas. Dr. Dyer and his staff have done all of this to perfection.

Chairman Clarence Francis of General Foods gave a talk at the Convention of the National Association of Manufacturers some years ago in which he said:

> "You can buy a man's time, you can buy a man's physical presence at a given place; you can even buy a measured number of skilled muscular motions per hour or day.
>
> "But you cannot buy enthusiasm; you cannot buy initiative, you cannot buy loyalty; you cannot buy devotion of hearts, minds and souls. You have to earn these things."

Wallace Dyer and Elliott Morse have earned this loyalty from our staff.

2. Dr. Dyer has set up our financial affairs with the assistance of Mr. Dennis Dougherty, so that we know where we stand, and we are living within our income.

3. He has presided over the improvement of the appearance and function of this beautiful building.

Shortly, we will be facing some important decisions. Dr. George Berry's Visiting Committee to the Library will make its report. Then an Internal Committee of the College will review the recommendations and make plans for the future. With this sort of thinking as a foundation for our planning, we should be able to go into action and accomplish our purposes.

It really has been a lovely experience being president. It has been exciting, enjoyable and fun from beginning to end.

I thank you for this indication of your affection, and I am glad I will be able to hand the gavel at the end of this meeting to a man whose heart and soul is in this College, and has been for years, ever since he revitalized our S. Weir Mitchell Fellowship program; and who, as Vice President and Chairman of our Finance Committee, has contributed his time, his knowledge and a great deal of thought and work to our affairs, Dr. George I. Blumstein.

* Annual Report of the President, The College of Physicians of Philadelphia, 7 January 1970.

Report of the Secretary for the Year Ended December 31, 1969

		Attendance
Stated Scientific Meetings:		
January	The Eightieth Thomas Dent Mütter Lecture Ernest E. Aegerter, M.D.	300
March	The Ninety-fifth Mary Scott Newbold Lecture (Symposium III). A Community Health Forum on "Population Avalanche". Moderator: Luigi Mastroianni, Jr., M.D. Panel: Benjamin Viel, M.D., Alan Guttmacher, M.D., Bernard Berelson, PH.D.	175
May	The Eighth Hira S. Chouké Lecture Elliott Middleton, Jr., M.D.	208
October	The Ninety-sixth Mary Scott Newbold Lecture Ralph Nader	543
November	The Forty-eighth James M. Anders Lecture Joseph T. English, M.D.	225
December	The Twenty-eighth Alvarenga Lecture Colin S. Pittendrigh, PH.D.	512
December	The Thirteenth Arthur Parker Hitchens Lecture (Held at Philadelphia County Medical Society) Joseph H. Boutwell, PH.D., M.D.	

	Total Ballot
Regular Business Meetings:	
January 8, 1969	319
May 14, 1969	303
October 1, 1969	No balloting
November 5, 1969	341
December 3, 1969	245

	Membership
Sections of the College:	
Ophthalmology	77
Otolaryngology	38 & 3 Honorary & 3 Dues Remitted
Public Health, Preventive and Industrial Medicine	30
Medical History (Fellows and Friends of the Section)	120

Membership:

	Fellow	Non-Res.	Assoc.	Honorary		Hon. Assoc.	Total
				Foreign	U.S.A.		
December 31, 1968	1,146	163	0	1	5	4	1,319
Died during year	24	3					27
Resigned	6	3					9
Elected	44	3					47
Re-Instated	2						2
Transfer from Resident to Non-Res.	(−13)	(+13)					
Forfeited	3	1					4
December 31, 1969	1,146	172		1	5	4	1,328
Life Membership							
New Type							
Under 70	25	9					
Over 70	13	3					
Old Type (Commutation dues)	6	0					
	44	12					
Dues Remitted as of December 31, 1969	41	14					
Annual Contributors as of December 31, 1969	1,061	136					

JOHN L. MCCLENAHAN, M.D.
Secretary

Report of the Treasurer for the Year Ended June 30, 1969

General Fund

Income

College general income	$201,712
Library	71,063
Medical Documentation Service	77,850
Gifts	32,201
Indirect expense allowance on grants	56,214
Total unrestricted income	439,040

Expense

Hall Committee	74,332
Library	196,200
Medical Documentation Service	76,833
College Collections	8,767
Publications	10,267
Secretary-Treasurer's office	35,047
Executive Director's office	28,615
Entertainment Committee	2,578
Employee benefits	24,971
Direct grant expense	173,953
American Philosophical Society grant	3,441
College general expense	13,692
Total expense	648,696

Less:

Charges to restricted endowment income	(62,328)
Charges to Special Funds	(43,160)
Reimbursement of direct expenses of grants	(173,953)
General fund expense	369,255
Net income for the year ended June 30, 1969	$ 69,785*

* Most of this apparent large net balance is a non-recurrent one due to two major factors: (1) a change in the accounting system from a cash to an accrual basis which incorporated certain funds that were not earned in this year; (2) defraying certain operating costs from the Development Fund (gifts from foundations). More complete details of the audit are available to the Fellows in the office of the Executive Director. The audit was conducted by Main Lafrentz and Co.

Kendall A. Elsom, M.D.
Treasurer

Annual Report of the Committee on the Library*

REGIONAL YEAR. The calendar year is the report year of the College Library. During 1969, the first year of Regional Medical Library operation was completed on May 30, 1969, and the 02 regional year began on June 1. Regional affairs overshadowed regular College Library activity as new programs were launched and relationships with the National Library of Medicine and within the region were proposed, tested, reexamined, and frequently restructured. New members were added to both Regional and College staffs; temporary space arrangements proved inadequate; relations with the community changed as free services were expanded; and incredibly large chunks of time were devoted to interviewing, procedural changes, report preparation, committee meetings, grant and supplementary grant applications, and myriad other grant administration activities unforeseen and unimagined. The brevity of this Annual Report on the College Library reflects not less activity but rather less time for introspection.

GROWTH. The staff devoting full time to regional library activity grew from eight in January 1969 to eleven one year later. The Regional Photocopy and Teletype Section outgrew its original study room with one photocopy machine and moved to the south end of the remodeled library workroom with two machines and shared access to a third. The Library's Medical Documentation Service promptly moved into the vacated study room and agreed to be responsible for operation of the teletype portion of the regional program. In this period the monthly level of photocopies supplied in lieu of interlibrary loan rose from 1,500 to 2,600 and hit a pre-holiday peak of 3,500 articles in November. Another gauge of the growth of library service is the annual "Ten or More" report, which shows that the number of loans (including photocopy) supplied to libraries which borrowed ten or more items during the year rose from 47,070 in 1968 to 52,357. If this figure were to include all loans, it would be 56,282 and even this would not include articles photocopied on a fee basis for non-qualifying institutions and individuals not eligible for free service in 1969.

The use of reference services also increased but at a modest enough rate to suggest a need for more publicity. MEDLARS search formulation service was first offered in August 1969.

CHANGE. The grant-supported regional medical library service produced many new services as well as the expansion of established ones. It effected changes in the College Library's relationships to the community and to the Federal government. The return of the Library's first MEDLARS trainee from Bethesda in August followed by the second in December, the installation of a key punch machine and the employment of an operator necessitated the conversion of the third floor lunch room into MEDLARS office space and the conversion of the basement kitchen area into a dining facility.

GROWING PAINS. The euphoric introduction to last year's report has given way to a realistic acceptance of the frustrations of trying to please more people. For a less formally structured institution there were painful adjustments in becoming a partner of the Federal government to meet detailed reporting requirements and stringent fiscal regulations despite the fact that new and better techniques sometimes resulted. Services graciously offered and gratefully received acquired a

* January 1–December 31, 1969.

slightly different flavor when cast in the mold of obligation and right.

Aspects of the program which sparked more irritation than inspiration are: budgetary limitations and inflexibilities; inability to carry over funds remaining at the end of the 01 budget year; complexity of procedure and length of time required to apply for supplementary funds; impact of the policy change by the National Library of Medicine requiring "equalized access" to commercial and nonprofit institutions; delay in reimbursement of funds expended by the College; space limitations of a 60-year-old building; frequency of change in the personnel of the Extramural Program section of the National Library of Medicine; delicacy of finding a balance between the need to accord the Regional Medical Library Committee something more than a strictly advisory role and the apprehension of the Library Committee (and some Fellows) of the College over diminution of control of the College Library; delay in approval of a regional newsletter by the College Library Committee (now endorsed); remodelling costs in excess of budgetary limitations; delay in the completing of the Visiting Survey Committee report; lack of opportunity to coordinate plans with programs initiated by the Susquehanna Valley and Western Pennsylvania Regional Medical Programs leading to overlapping training efforts; failure to secure American Hospital Association survey results from two of the three hospital associations in the Mid-Eastern region; weaknesses of some local hospital libraries in relation to the research programs undertaken by hospital administrations; internecine differences, remarkable not for their intensity but because they weren't apparent before the grant; weakening of the program as budgetary limitations required abandonment of hopes for a deputy director, a regional communications agent, TWX installations in libraries which might perform a subregional function; audiovisual program, and messenger service; postponement of solicitation of Regional Medical Program cooperation in identification of unaffiliated users; failure to stimulate greater R.M.P. participation; the general environment of fiscal uncertainty stemming from intimations of Federal budget cuts; executive branch of the government threats to withhold funds even if appropriated; and indications of orders of priorities within H.E.W. and N.L.M.; limitations of time resulting in priority for response to irritations rather than to creative initiative; and finally difficulties in recruiting attributable to one or more of the factors noted above.

SUB-REGIONALIZATION. Discussion of institutional and geographic sub-regionalization by the Librarian of the College as early as January 1967 presented minus and plus factors. Direct service from the College Library to hospitals fostered good will through the years and provided the College with a community service image which nurtured institutional survival and engendered community fiscal support. Displacement of this direct flow through the channel of the hospital's medical school affiliation would be logical from a community planning viewpoint. It would allow the medical school libraries to assess the weaknesses of collections which are vital to the training of students, interns, and residents who are the medical schools' educational responsibility. In many cases it could encourage long-overdue strengthening of neglected collections previously lacking a voice strong enough to command attention. The increased time to process requests for material not available from medical school libraries which are referred to the College Library must be minimized. Indirect use will relieve the regional library of traffic to supply copies from common journals and may offset the inconvenience of charges which some schools will have to levy in contrast to the

free service available from the grant-supported regional library program.

SERVICE TO FELLOWS. Some Fellows realize that they receive free photocopy from the College through the medical school or hospital library with which they are associated but that they would pay for this service provided directly from the College. They are satisfied with the explanation that grant support doesn't subsidize College service to its Fellows but increases the availability of library resources to Fellows and others through the institutions with which they are affiliated. In almost all cases it is more convenient to have copies delivered where they work or teach. To accommodate occasional direct use of their Library by Fellows, Council approved distribution of ten coupons, each of which entitles the Fellow to free photoduplication of one journal article. This privilege is College-supported; it is not grant-funded.

MEDLARS search formulations are available to Fellows directly from the College or through a more convenient institutional affiliation. In many cases it is desirable to establish direct contact between the original questioner and the librarian who plans the search strategy to define the search in vocabulary terms in the MeSH (medical subject heading) list or thesaurus. MEDLARS search specialists are also available to groups of Fellows and other interested persons for MEDLARS user orientation programs.

"EQUALIZED ACCESS." The most traumatic experience of the year was the decision of the National Library of Medicine in August to require immediate compliance with a directive to provide free photocopy to commercial as well as to non-profit educational institutions. This was distressing because federal authorities had frequently expressed their determination not to supplant hard local money with soft federal funds. Since there was no guarantee (or really even hope) of extra funds to cover this additional free load, the new policy has the effect of lessening service to hospitals and medical schools to provide free service to profit-making agencies.

For the College this precipitous policy reversal threatened a considerable source of financial support from fees paid by pharmaceutical firms and others who value fast service and recognize equity of sharing the costs of acquisition, processing, storage, and servicing of the materials to be copied. These corporate friends usually voluntarily augment the minimal registration fee for borrowing and photoduplication privileges. The new policy reduces the motivation for this help but not the need for it.

Ironically, pressure for this free service did not come from within the Mid-Eastern region but from another section of the country where the relationship between the private resource library and local industry was not so cordial. Although the length of time given to comply with the new policy was extended and each regional medical library was permitted to recommend its own methods of insuring "equalized access," the development of a suitable procedure was a major drain on regional personnel and the implementation of new procedures was confusing to library staff and users alike.

QUOTA SYSTEM. The Mid-Eastern Regional Medical Library Service responded to the new situation by initiating a quota system which fairly distributes as much free service as federal funding will support. Questionnaires were sent to all institutional users to determine the number of qualified users (biomedical personnel engaged in professional education, service, or research) served through each. In consultation with pharmaceutical company librarians, it was agreed that senior research personnel constitutes a qualified user group. A conference with officers of the National Library of Medicine resulted in extra weighting of research personnel.

The resulting quota determination formula protected the College Library from bankruptcy and encouraged decentralized borrowing by libraries wishing to husband their quota.

Red quota stamps were distributed to 477 institutions (266 hospitals, 211 others) for stapling on interlibrary loan request forms. Over-the-quota requests will be filled on a charge basis. The alternative of an embargo list of common titles was considered but rejected to avoid hurting new fledgling libraries without formal affiliations. The quota plan was approved by the College Library Committee and the Mid-Eastern Regional Medical Library Committee. For our statistically minded readers and to make it a matter of record, the MERML quota model for the first half of 1970 follows:

$$\left(\frac{p + r}{P + R} + \frac{s + 2rs}{S + 2RS}\right) V = Q$$

Where p = total health science population in one institution
r = total health science research population in one institution
s = total health science seniors (Ph.D., M.D., etc.)
rs = total health science research seniors

and where
P = total health science population in region (survey responders)
R = total health science research population in region
S = total health science seniors population in region
RS = total health science research seniors in region
V = volume of loans supported by grant (adjusted for non-use)

V = 100,000
P = 116,471 S 42,554
R = 7,729 RS 2,472
P + R = 124,200 S + 2RS 47,498

$$Q = \left(\frac{p + r}{124{,}200} + \frac{s + 2rs}{47{,}498}\right) 100{,}000$$

The equation is intended to predict the interlibrary loan generating potential of each institution.

GOLD STAMPS. In addition to the red regional stamps issued according to the principle described above, gold stamps were issued to institutions which make financial contributions to the College Library and are ineligible for a regional quota or whose regional quota is below the equivalent value of their support. A minimum contribution of $50.00 entitles institutional registrants to borrow 75 volumes per year. Gold stamps are not valid for photoduplications. They may only be used to borrow original material.

ACCOMPLISHMENTS. The following statistics are offered in continuation of data recorded in last year's report.

Regional Photocopy and TWX Section. The rate of growth of demand is shown by the first table below.

1968	Requests received	College filled	Referred elsewhere	Rejected	Returned unfilled	Not recorded
Jan.–June	10,439	8,975	826		617	21
July–Dec.	12,120	10,306	1,094	461	258	1
1969						
Jan.–June	16,461	13,904	1,663	515	380	1
July–Dec.	31,522	27,697	2,068	563	1,194	0

A comparison of figures for the July to December period in 1968 with the same period in 1969 reveals that the College's fill rate improved despite an increase of more than double the number of requests received. This improvement by 1.1% is remarkable when the rate is so close to 90%. Less felicitous is the observation that the College Library was unable to refer as large a portion of unfilled requests

elsewhere in the region and the not surprising result was that the percentage of unfilled requests rose from 2.2% to 3.8%.

These changes and the increase in speed in filling requests, noted below, are attributable to the inclusion of loans of originals as well as provision of photocopies beginning in July 1969.

	July–Dec. 1968	July–Dec. 1969
Requests received	12,120	31,552
Requests rejected	3.8%	1.8%
Filled by College	88.4%	89.5%
Referred elsewhere		
a. within region	7.9%	5.0%
b. to other regions	.1%	.1%
c. to N.L.M.	1.5%	1.6%
Not recorded	.1%	
Returned unfilled	2.2%	3.8%

Another way of assessing performance is to examine the time required to process requests during the same two six-month periods. The improvement here is so dramatic that some explanation must be sought. The most plausible one is the transfer of this operation into less crowded space in the Library Workroom and the upgrading of equipment by the installation of two Xerox 720 machines. The increasing competence of an already efficient staff cannot be discounted.

	July–Dec. 1968	July–Dec. 1969
Filled on day of receipt	4.5%	89.9%
Filled in one working day	64.4%	7.9%
Filled in two working days	30.1%	2.1%
Filled in three working days	1.0%	.1%
Filled in 4–5 working days	.1%	.1%
Filled in 6–10 working days	.1%	

Service area. It has been noted on several occasions that the overwhelming portion of utilization of the Mid-Eastern Regional Medical Library Service is by libraries from the five counties in the southeast corner of the state of Pennsylvania. It is gratifying to be able to demonstrate a modest trend toward more widespread utilization. This is seen more clearly when the number of institutions is considered than when the number of loans is tabulated. Small gains in New Jersey and no gains in Delaware prove that greater publicity efforts are needed.

	1967		1969	
	No. of loans	%	No. of loans	%
Metropolitan Phila. (5-county area)	36,688	90.5	45,058	86.0
Pennsylvania, other	1,466	3.6	4,004	7.6
New Jersey, southern	1,182	2.9	2,211	4.2
Delaware	378	.9	423	.8
Outside of region	726	1.8	661	1.3
	40,440	99.7	52,357	99.9

	1967		1969	
	No. of librar-ies	%	No. of librar-ies	%
Metropolitan Phila. (5-county area)	87	68.0	87	51.4
Pennsylvania, other	13	10.2	45	26.6
New Jersey, southern	7	5.5	15	8.9
Delaware	6	4.7	6	3.6
Outside of region	15	11.7	16	9.5
	128	100.1	169	100.0

The figures in the table immediately above do not represent the total borrowing traffic, but only those institutions which borrowed ten or more items during calendar years 1967 and 1969.

Reference services. Regional budget planning and reporting consider reference services in two categories, MEDLARS services and traditional reference services. Because MEDLARS search formulations were not begun until August 1969 there are no comparable statistics for 1968. Traditional reference services predated regional funding but data gathering techniques have changed enough to preclude completely valid comparisons.

To provide a partial baseline for future perspective, we can say that 148 MEDLARS searches were formulated during 1969 and that of these 139 were received directly from users; 28 were referred from the National Library of Medicine.

During the 1968–69 regional year records were kept of 47 Non-MEDLARS searches and 380 quick reference questions as well as the compilation of 26 bibliographies.

The following tabulation covers the period July to December 1969 and is in the format requested by the National Library of Medicine.

Non-MEDLARS Searches	
a. Quick reference questions	5,242
b. Medium to long questions	433
c. Citation verifications	201
d. Reference searches	25
Total non-MEDLARS searches	5,901
Bibliographies produced	24

Within this section of the report it is appropriate to relate the holding of a MEDLARS user orientation program at the College on September 25, 1969 which was well-attended and enthusiastically received. Subsequent sessions were held at Temple University School of Medicine and at University of Pittsburgh School of Medicine.

EVALUATION SECTION. Important contributions of the Evaluation (Program Analysis) Section of the Regional Library Service are conspicuous in the text and statistical tables presented above. The solid work of Miss Carol C. Spencer, Head of the Evaluation Section, is evident in the data derived from the "Ten or More" report, in the development of the MERML quota formula, in the analysis of data relating to the provision of photocopy in lieu of interlibrary loan, and in the study of use of MERML services by geographical area.

A follow-up study was made for comparison with last year's tabulation of "Pre-Regional Interlibrary Loan Patterns" but the pressure of quota implementation has delayed its analysis. Another study not yet reported in full was a solicitation of institutional users' opinions about additional or strengthened services which they would like from the regional library.

The final report on the contract with the Institute for Advancement of Medical Communication to design a data collection and analysis system was received on July 1, 1969. This system will serve to continuously monitor the quality and cost of the interlibrary loan service, to compile statistics required for quarterly and annual reports to N.L.M. and to assess the impact of the College's interlibrary loan service on the region's libraries and their needs for additional services. The practicality of a sampling technique was demonstrated which will permit a 1 to 20 sampling ratio to satisfy the practical difference criterion for acceptable reliability of a maximum sampling error not to exceed ±5% at 95% confidence. This technique has been accepted by the National Library of Medicine for parts of the regional medical library reports.

In order to acquire and analyze cost data on interlibrary loans, a small Random Alarm Mechanism (RAM) was carried by each staff member handling interlibrary loans. When the RAM buzzed, the individual recorded what he was doing at that moment by checking the appropriate category on a short checklist. These checklists of mutually exclusive categories of activities were tailored for each department involved in interlibrary loan operations. The valid serial data on unit costs which were derived provide a basis for decisions regarding alternative ways of organizing service and for assessing decisions once they are implemented.

UNION LIST OF MEDICAL SERIALS. Programs were purchased from the Medical Library Center of New York (MLC) for the production of such lists as: journals currently received by the College of Physicians of Philadelphia; journals currently received by libraries now included in "JIM List, 1968, Guide to Journals listed in *Index Medicus* with their Pennsylvania

Locations"; titles and holdings of journals currently received by the College to be augmented later by the addition of other libraries significant because of their size or subject strength.

A file of cards has been produced from the MLC tapes and cards for titles currently received by the College have been extracted from this file. Cards have been prepared for titles received by the College but not in the MLC store; a merged tape has been prepared for a list of titles currently recevied by the College. College of Physicians of Philadelphia holdings of these titles have been added to the cards preparatory to input for inclusion on the merged tape. It is hoped that the printout of the first products of the system will be available in published form by June 1970.

"NEWSLETTERS." Pending approval of a more formal newsletter, the Regional Library Service issued two *Interim Communications,* no. 1, May/June 1969 and no. 2, August 1969. The Temple University School of Medicine Library generously agreed to compile and print the first *MERMLS newsletter* which appeared after the end of this report year.

MINI-LIBRARY. The books in the Postgraduate Medical Institute Library (*New England Journal of Medicine,* 280: 474–480, February 27, 1969) have been assembled for display and loan. The library was displayed at a Hospital Library Conference at Harrisburg on October 23, 1969 and at a meeting of the Philadelphia Regional Group of the Medical Library Association held at Temple University School of Medicine in November. It was loaned to the Ephrata Hospital on a demonstration basis. Mrs. Michele Winters, the Regional Reference Librarian, adapted inventory and evaluation report forms as well as posters for use with the library. She also obtained carrying cases suitable for transportation of the library. In this activity she drew upon experience with deposit collections placed in branches of the Free Library of Philadelphia.

MID-EASTERN REGIONAL MEDCAL LIBRARY COMMITTEE. There were four meetings of the Committee during 1969. Members of the Regional Planning Council were invited to attend the meetings.

At the meeting on March 6, a progress report was made on the work of the Visiting Survey Committee appointed by the President of the College to examine the resources and services of the College in terms of present and future function, adequacy of building, staff, administration, collection, service policies, book preservation, budget, and community relations. Preliminary investigations reviewed salary scale, sources of financial support, mechanization, messenger service, and publicity. The Committee (Regional) discussed the merits of direct and indirect service to hospital libraries. Miss Spencer reported that indirect access might permit medical school libraries to supply about 13,000 requests per year with about 2,100 referred to the College Library for ultimate processing. This assumes that the medical school libraries can supply 85% of the hospitals' needs. A subcommittee on interlibrary loan under the chairmanship of Robert Lentz was appointed to review the possibilities. The Regional Committee agreed to ask all medical libraries in the region to report interlibrary loan transactions for survey purposes. Specific information about the number of loans requested and received from each lender and the number of loans to each borrower is needed.

The Subcommittee on Interlibrary Loan consisting of Robert Lentz, Chairman, Ida Draeger, Helen Lake, Jess Martin, and Jerome Rauch met on April 8 and prepared a report proposing that: 1., all interlibrary loan requests from affiliated hospitals be routed through the library of the medical school with which they have affiliation;

2., the medical school library, if it has the requested material, will service the request on a fee-for-service basis at the library's established rate of charge; 3., requests for material not available at the medical school library will be forwarded to the Mid-Eastern Regional Medical Library for free photocopy to be sent directly to the affiliated hospital library.

This subcommittee report was received and considered at a meeting of the Regional Medical Library Committee held on April 10. There was a considerable lack of agreement concerning ways of implementing the recommendation. Several medical school librarians agreed to establish experimental arrangements with one or more affiliated hospitals to determine the feasibility of sub-regionalization.

The next meeting of the Regional Medical Library Committee was held on September 18. The Regional Medical Library staff presented summary reports of the first year (July 1968 to June 1969) of operation. Elliott Morse reported that it was unlikely that grant funding would permit any expansion of regional library services in the coming year. The Regional Medical Library Committee approved in principle the proposal to establish quotas for free regional interlibrary loan and photocopy to extend available funds to provide free service to commercial agencies as directed by the National Library of Medicine. The Committee also heard reports on MEDLARS search formulation, hospital library workshops, and the regional union list of medical periodicals.

The fourth meeting of the year was held on December 4 at which the Regional Medical Library Committee approved the formula by which interlibrary loan and free photocopy quotas are determined and the schedule of charges for over-the-quota use. Dr. Wayne Herron, Mr. Samuel Waters, and Mr. Robert Walkington, members of the staff of the National Library of Medicine attended the meeting as observers. Dr. Herron told the Committee than an embargoed list of journal titles was an alternative to the quota system. Dr. Herron joined Elliott Morse in reporting on the meetings of regional medical library directors and officers of the National Library of Medicine which were held on October 24 and 25. Fred Bryant and Dr. Carroll Reynolds reported on library activities funded by the Susquehanna Valley and Western Pennsylvania Regional Medical Programs. The Chairman was directed to appoint a subcommittee to consider the establishment of a list of common medical journals which could not be requested from the Regional Medical Library. The Subcommittee was also directed to maintain surveillance of the operation of the quota system.

VISITING SURVEY COMMITTEE. This Committee, under the Chairmanship of George P. Berry, M.D., Dean Emeritus of the Harvard University School of Medicine, began its survey of the College and its Library in January 1969 and continued its meetings through the Spring. Although the final report did not arrive until January 1970, the Librarian and the officers of the College had access to preliminary sections of the report as written and to the report draft which was completed in September.

Particularly helpful were working papers prepared as the study progressed. Jess A. Martin wrote a paper on the salary scales and physical equipment and furnishings of the Library; Dr. David Kronick drafted a critique of the care and housing of the Library's historical collections; Erich Meyerhoff commented on the inadequacies of the physical plant and its furnishings and the need for greater community support; Dr. Richard H. Orr and Harold Bloomquist dealt with possible administrative reorganization. The original plan now calls for the appointment of an internal committee to receive the report

and to establish priorities concerning its implementation.

WANTS AND NEEDS. Responses were received from 196 libraries to a questionnaire designed to elicit information about the priorities which they would assign to certain improvements or expansion of regional medical library service. Opinion was solicited with costs considered and with costs disregarded. The votes were tabulated by types of libraries. The cost factor did not affect the rank of the first six choices which were (1) faster interlibrary loan and photocopy, (2) expanded reference services, (3) messenger service, (4) audio-visuals, (5) technician training, and (6) WATS (Wide Area Telephone Service) line. Lesser values were given to: visiting consultants, storage of duplicates, exhibits, acquisition and processing, and part-time temporary personnel bureau. Types of libraries which dissented from the popular choice were health science schools, research and development libraries, and non-teaching hospitals. The research and development libraries placed a higher value on expanded reference service. The health science schools gave top priority to a messenger service.

TRAINING WORKSHOP. A successful training session was held at the College on September 24 with instructional honors shared by Mrs. Caroline Morris, Librarian of the Pennsylvania Hospital, and Mrs. Beatrice Davis of the College. The workshop described regional interlibrary loan and reference services to enable hospital library personnel without formal training in librarianship to use regional library services and resources and to expand service to their own institutions. Plans for four other training sessions in other sections of the region were dropped because of conflicting programs offered under different auspices or due to lack of interest.

REGIONAL MISCELLANEA. Equipment facilities of the regional program were strengthened by the purchase of: two 64-drawer card catalogs, a 3M model 400M microfilm reader printer and a ten-drawer file cabinet, a Fairchild Mark IV projector, a Wollensak #5730 tape recorder, filing cabinets, desks, tables, chairs and typewriters.

The Librarian of the College participated in a one-day conference for hospital administrators, hospital-based medical educators, directors of nursing education, and others responsible for continuing education of hospital staff. The conference was held in the William Penn Memorial Museum in Harrisburg on October 23, 1969. It was sponsored by The College of Physicians, the Hospital Association of Pennsylvania, the Milton S. Hershey Medical Center, the Pennsylvania Department of Health, and the Pennsylvania Medical Society. Elliott Morse described the services of the Mid-Eastern Regional Medical Library and displayed the Postgraduate Medical Institute "Mini" Library.

The Librarian also participated in a two-day conference held at the Milton S. Hershey Medical Center Library, November 20–21. Training of hospital library staff was emphasized. He also represented the Mid-Eastern Regional Medical Library Service at a two-day meeting of officers of the National Library of Medicine and regional medical library directors in Louisville on October 24 and 25.

The Library acquired fifty-two 8 mm cartridge films produced or released by the National Audiovisual Center. They will be loaned to libraries which own a Fairchild Mark IV projector and agree to replace any films which are damaged. Films may also be viewed at the College. A list of the available films was published in the Library's Booklist.

Mrs. Beatrice Davis, Lee Tanen, Mrs. Michele Winters, and Elliott Morse spoke to the staff meeting of adult and young adult librarians at the Free Library of Philadelphia on December 9 on the med-

ical library network and implications for public library development.

During the year the regional medical library service was visited by librarians interested in the Mid-Eastern service from Los Angeles, New York, Boston, Chicago and St. Louis.

RESOURCE GRANT PROGRAM. The Resource Grant program for calendar year 1969 (the 03 year of the grant) permitted the employment of a Stack Supervisor to concentrate on problems of stacks housekeeping. Special attention was given to local shifting to relieve tight spots, provision of boxes and envelopes for unbound issues, shelf reading and rearranging sections of stack in bad order, and relabelling stack range ends. This long-needed restoration of order speeds the retrieval of volumes from the stacks and encourages more careful reshelving.

The College Library Picture—1969

THE COLLEGE LIBRARY. Last year's report commented on the irony of the small portion of the report devoted to the Library itself in view of the fact that there would be no regional medical library program without it. The allocation of 75% of the Librarian's salary to the regional budget is indicative of the neglect of the foundation upon which the regional program has been built. Its continuing strength is largely due to the extraordinary professional competence of the staffs of the Serials Department, the Processing Division, the Reference/Circulation desk. Its high morale may be attributed to the devotion of the Assistant to the Librarian and the Library Secretary. Its continuing productivity owes much to the activity of the Historical Department and the Medical Documentation Service whose labors are reported elsewhere in this document.

It would be entirely appropriate to reprint the portions of last year's report which decried the lack of space for books and staff. The only difference is the worsening of the situation by the addition of another year's books and journals.

Backlogs in the Cataloging Department have almost been eliminated by the arduous efforts of Mrs. Sarah Caspari, Mrs. Kathryn Miragliotta, Carmine Salvato and Josefa Sereda. Temporary summer help was engaged to restore order in a disaster area in the basement which houses the duplicate journal collection. The backlog of library materials awaiting collation has been brought under control thanks to the persistence of E. Naomi Frazer and the diligence of the paging staff.

Binding. Eleven shipments were sent to the commercial bindery converting 1213 volumes to a more manageable form. Members of the paging staff encased 1,742 volumes in pamphlet covers. 953 items were dispatched from the Serials Department to the Workroom for processing.

Job descriptions. At the suggestion of the Executive Director, members of the Library Staff were asked to prepare descriptions of their responsibilitities and library functions.

S. Weir Mitchell Associates. During the year the following journals were endowed: *American Scientist* by George B. Goldman; *Scandinavian Journal of Thoracic and Cardiovascular Surgery* by Fitz Eugene Dixon; *Laryngoscope* by Philip Marden, *Acta Paediatrica Scandinavica* by Mrs. Beatrice F. Davis in memory of Mrs. Jessie F. de Cani; *Advances in Internal Medicine* by George I. Blumstein in honor of Charles G. Blumstein.

Changing of The Guard. The College Library is especially blessed to have two such enthusiastic boosters as Richard A. Kern and Francis C. Wood. It is entirely appropriate, therefore, that at the close of his three year term as President of the College, Dr. Wood should succeed Dr. Kern as the Honorary Librarian of The College of Physicians. Dr. Kern has brought distinction to the already revered title of Hon-

orary Librarian which he has held since 1956. His intuitive sense of timing brought the plight of the independent medical society library to the attention of the Director of the National Library of Medicine at a time when the concept of the regional medical library was only a dream. It was Dr. Kern's personal commitment which guaranteed the success of the fund raising efforts in the early 1950's, leading to the remodelling of the College building and the construction of the stack addition. It is altogether fitting that he should be followed by the man who motivated the College's application to become the second regional medical library in the country.

Equally noteworthy is the contribution of Samuel X Radbill, who retires at the end of 1969 as Chairman of the Library Committee. Dr. Radbill brought to the Chairmanship the rare combination of a scholar's interest in medical history and the practicing physician's appreciation of the value of current medical information. His intuition of administrative relationships kept the College Library on a prudent course.

During the year, Drs. William T. Fitts, Jr., J. Gershon-Cohen, E. Harold Hinman, and Michael B. Shimkin served on the Library Committee. Dr. Hinman's retirement and Dr. Shimkin's move to the University of California, San Diego, at La Jolla, resulted in the appointment of John Franklin Huber and Walter B. Shelley to the Committee at year's end.

Personnel. Maternity changed the careers of Mrs. Joyce S. Mingledorff, Head of the Regional Reference Services; Mrs. Eileen Binckley, Readers Service Assistant; Mrs. Margaret Henry, Historical Assistant; and Mrs. Donna Parks, Library Page. Academic interests caused the resignations of S. Augustus Young, part-time Serials Assistant, Halina T. Wierzbicki, part-time Historical Assistant, Jean Conley, Page, and Stephan Bilynsky, Evaluation Assistant. Staff members who resigned to take other positions include Linda Howell, Patricia Boyle, and Patricia Porter.

New appointments were Mrs. Rhea Brown, Readers Service Assistant; Mrs. Michele Winters, Regional Reference Librarian; James Butler, part-time Serials Assistant; and Patricia Fox, Timothy Phillips, Bernadette Baus, Margot van Rossum, Valerie Suber, and Thomas Askins, as Library Pages.

Lee J. Tanen, has accepted the position of Head of Regional Reference Services in addition to her duties as MEDLARS Search Formulator. Alice Mackov has joined the staff as MEDLARS Search Analyst. Mrs. Anne Schor is now the Regional Secretary and Barbara Cassady is Evaluation Clerk/Typist. Mrs. LaVerne K. Pittman was transferred from the Library Paging Staff to the Regional Photocopy and Teletype Section. Other personnel changes in the Historical Department and Medical Documentation Service are recorded in the corresponding sections of this report.

Professional staff activity. The Library was represented at the 68th Annual Meeting of the Medical Library Association in Louisville by Alberta Berton, Mrs. Sarah Caspari, Mrs. Beatrice Davis, Mrs. Lisabeth Holloway, Lee Tanen, Mrs. Michele Winters, and Elliott H. Morse who was installed as President of the Association during the sessions. Mrs. Davis serves the Association as a member of the Curriculum Committee.

The Library was represented at the Third International Congress on Medical Librarianship held in Amsterdam in May by Elliott H. Morse. He was appointed as the United States representative on the Bridging Committee for the next Congress. He received the Distinguished Alumnus award from the Drexel Institute of Technology School of Library Science in November.

Mrs. Lisabeth Holloway serves as Chairman of the Philadelphia Regional Group

of the Medical Library Association for the period July 1969 through June 1970.

Miss E. Naomi Frazer is Secretary and member of the Executive Board of the Special Libraries Council of Philadelphia & Vicinity.

Benefactors. A list of donors of books and other library materials appears in the statistical section of this report.

The Library acknowledges its gratitude to the following institutions which have shared the operational costs of the College Library this year:

NON-PROFIT INSTITUTIONS

Alfred I. du Pont Institute
Antioch College-Fels Research Institute
Fitzgerald-Mercy Hospital
Institute for Cancer Research
Jefferson Medical College
Lankenau Hospital
Medical Literature, Inc.
Pennsylvania College of Podiatric Medicine
Pennsylvania Hospital
Philadelphia College of Osteopathic Medicine
Philadelphia General Hospital
University of Pennsylvania School of Medicine
Woman's Medical College of Pennsylvania

CORPORATE INSTITUTIONS

American Cyanamid Company (Lederle Laboratories)
American Micromation Industries, Inc.
American Sterilizer Company
Atlas Chemical Industries
James E. Beasley, Atty.
Bell Telephone Company
Bellis, Kolsby & Wolf, Atty.
Campbell Soup Company
Carroll Dunham Smith Pharmacal Company
Cohen, Verlin & Shekman, Atty.
Cooper Laboratories, Inc.
Council for Tobacco Research
Dechert, Price and Rhoads, Atty.
Dilworth, Paxson, Kalish, Kohn & Levy, Atty.
Duane, Morris & Heckscher
E. I. du Pont (Haskell Laboratories)
E. I. du Pont (Lavoisier Laboratories)
E. I. du Pont (Stine Laboratories)
Extracorporeal Medical Specialties, Inc.
FMC Corporation (American Viscose)
Stephen M. Feldman, Atty.
Freedman, Borowsky & Lorry, Atty.
General Electric Company
General Technical Services
Evelyn Goldstein
Hoffman-LaRoche, Inc.
Information Interscience, Inc.
International Pharmaceutical Corporation
Johnson & Johnson Company
Kisselman, Devine, Deighan & Montano, Atty.
Krusen, Evans & Byrne, Atty.
LaBrum & Doak, Atty.
Lea Associates, Inc.
Litvin and Rutter, Atty.
Charles Lowenthal, Atty.
McNeil Laboratories
Malis & Feldman, Atty.
Mancel, Lundy & Lessin, Atty.
Mead Johnson Company
Medical Programs, Inc.
Merck Frosst Laboratories
Merck Sharp & Dohme
Morgan, Lewis & Bockius, Atty.
National Drug Company
Norwich Pharmacal Company
Penn Central Railroad Co.
Pennwalt Chemical Company
Pepper, Hamilton & Scheetz, Atty.
Perskie & Perskie, Atty.
Quaker Chemical Company
Radio Corporation of America
Ramsdell, Burkley & Co., Inc.
Roche Bioelectronics Division (Hoffman-LaRoche, Inc.)
Rodale Press, Inc.
Rohm & Haas Company
William H. Rorer, Inc.
Schnader, Harrison, Segal & Lewis, Atty.
Shein & Mele, Atty.
Smith Kline & French Laboratories
Sidney J. Smolinsky, Atty.
E. R. Squibb Research Institute
Paula Stone
Sun Oil Company
Wallace Laboratories

STATISTICAL SUMMARY

Inventory

	1969	*1968*
Accessioned items[1]*:*		
Incunabula[2]	421	421
Manuscripts and typescripts	1,342	1,326
General	248,711	243,402
Accessioned pamphlets	9,566	8,775
	260,040[3]	253,924[3]
Unaccessioned items[1]*:*		
Reports	28,822	28,820
Theses	62,855	62,342
Pamphlets and reprints	228,542	228,536
	320,219	319,698

Accessioned Acquisitions:

1969: 6,116 (2,941 by purchase; 2,869 by gift; 306 by exchange). (Books: 2,984; Periodicals: 2,341; Pamphlets: 791)

1968: 6,224 (2,811 by purchase; 2,938 by gift; 475 by exchange). (Books: 2,681; Periodicals: 2,767; Pamphlets: 776)

Non-accessioned acquisitions:

1969: 167 items (Reports, 2; Theses, 110; Miscellaneous, 55).

1968: 141 items (Reports, 2; Theses, 99; Miscellaneous, 40).

Currently Received Serials

	Subscription	*Gift*	*Exchange*	*Total*
U.S.A.	608	446	71	1125
Western European Continent	868	82	134	1084
Eastern European Continent	151	43	65	259
United Kingdom and Eire	153	26	29	208
Asia (including Japan)	97	78	74	249
Latin America and West Indies	43	48	68	159
Canada	19	12	8	39
Pacific (including Australasia)	14	9	10	33
Africa	2	7	17	26
Grand Total 1969 (Dec. 31)	1955	751	476	3182[4]
Grand Total 1968 (Dec. 31)	1977	792	479	3248[4]

New Titles: A total of 113 new serial titles was added in (1 Nov. '68–3 Dec. '69). Separate issues received, checked in the Kardex record and shelved totaled 22,287.

[1] Accessioned items in this library comprise the total number of bound volumes and such unbound pamphlets as have been cataloged as separate bibliographical units regardless of their size.

There remain many thousands of unaccessioned pamphlets awaiting accessioning and cataloging. A true quantitative and qualitative picture of the library's holdings cannot be presented until this wealth of neglected material has been processed and duly registered in our 'accessioned' count.

[2] The Library owns 423 incunabula, but there are two cases of two bound together, reducing the number of accessioned items.

[3] Included in these figures are the following collections which are on permanent deposit in the Library: Gross Library, 3,976 accessioned items; Parry Library of the Obstetrical Society of Philadelphia, 217; Mütter Museum, 200 (Mütter Museum books may not be removed from the College building).

[4] Titles are only included in this count if issues were received in 1968 or 1969.

Readers' Use of the Library

Library Hours: The Library was open, during the academic year, from 9:00 A.M. to 9:30 P.M. on Mondays and Wednesdays, from 9:00 A.M. to 5:00 P.M. on other weekdays. During June, July, August and until the first Monday after Labor Day, the Library was open from 9:00 A.M. to 9:00 P.M. on Tuesdays and from 9:00 A.M. to 5:00 P.M. on other weekdays, except Saturdays when it was closed. The following legal holidays were observed: Thanksgiving, Christmas, New Year's, Memorial, Independence, and Labor Days.

	Reading Room	*Periodicals Room*	*Totals*
Visitors:			
1969	7,368	3,747	11,115
1968	8,802	3,804	12,606
	Intra-Mural[5]	*Extra-Mural*	*Totals*
Circulation:			
1969	26,188	25,866	52,054
1968	27,450	35,464	62,914
	Books	*Journals*	*Totals*
1969	10,474	41,580[6]	52,054
1968	11,749	51,165[7]	62,914

Interlibrary Loans: The Library sent 56,214 (1968: 47,706) volumes on interlibrary loan.[8] Included in 1969 figures are 30,615 articles photocopied with Resource and Regional Grant support, but not the photoduplications noted immediately below.

Photoduplications: 192,300 pages were photocopied on request (1968: 171,453). Users of this service reimburse the College Library for copying and bookkeeping costs.

Donations

The donors for the past year number 60 (1968: 89). The library is indebted for large gifts of books, pamphlets and unbound periodicals to the following donors: American College of Physicians; Drs. J. M. Fruchter, E. R. Long; National Foundation; Dr. F. B. Rogers; Smith Kline & French Laboratories; Wallace Laboratories, and Woman's Medical College.

Various publishing houses, among the large group of corporate donors, have presented volumes as follows: F. A. Davis Company, 45; Lea & Febiger, 12; J. B. Lippincott Co., 57; W. B. Saunders Co., 73.

Other individual donors were as follows: Dr. H. J. Abrahams; Mr. L. P. Appleman; Drs. T. C. Barnes, R. A. Boyer; Mr. F. D. Bryant; Dr. T. Cianfrani; Capt. J. W. Cox; Drs. A. P. Fishman, F. G. Giller, R. J. Gould, S. B. Hadden; Mrs. A. Kanofsky; Drs. I. H. Kornblueh, T. H. Leopold, E. B. LeWinn, J. B. Light; M. B. Lurie Estate; Drs. J. L. McClenahan, E. H. McGehee, B. Malzberg, M. Naide, S. X Radbill, R. H. Roberts, C. E. Rosenberg; Mrs. J. B. Rudolphy; Drs. H. G. Scheie, J. A. Sterling, S. B. Sturgis, F. W. Sunderman, J. M. Thorington, and R. G. Tronzo.

The *Transactions & Studies* was sent, either in exchange or as gift, to 569 organizations.

Theses and dissertations to the number of 513 have been received on exchange from the following European schools of medicine: Universities of Basel, Bern, Erlangen, Geneva, Karolinska Institute, Lausanne, Leiden, Liège, Louvain, Lund, Uppsala, and Utrecht.

Elliott H. Morse
Librarian

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[5] The number of volumes "consulted in the library" includes only those supplied on demand. Readers have access to the bound volumes of periodicals and reference works kept on the shelves in the Reading Room; the Fellows, and occasionally others, by special permission, have access to the book stacks. There are, therefore, many volumes consulted of which no accurate record can be kept.

[6] This figure includes 6,976 unbound current journal issues circulated from the Periodicals Room.

[7] This figure includes 5,426 unbound current journal issues circulated from the Periodicals Room.

[8] The count of states, territories and foreign countries to which loans were sent has been dropped. The development of regional networks makes this statistic less meaningful.

Library Historical Collections

1. Curator's Report

Visitors to the Packard-Krumbhaar Alcove during the year could hardly have failed to be impressed by the concrete evidence—in the form of added staff and book-laden tables and trucks—that cataloguing and reference activities were proceeding apace, thanks in part to the continuing financial support from the American Philosophical Society. Specific references to some of these activities may be found, of course, in the Associate Curator's report, below. It is a matter of regret that the Alcove's limited space, in conjunction with the staff activities, seldom provides the visiting scholar with the customary and desirable lack of aural and visual distractions.

Acquisitions. The following two paragraphs were contributed by Mrs. Holloway to the November report to the Library Committee:

"In October, Dr. Esmond Long made a gift to the College of a number of books and pamphlets from his own library —a further gift. Many of these have been added to our collections; the duplicates in the field of medical history were offered, with Dr. Long's concurrence, as a gift to Hershey Medical Center Library, along with some fairly substantial runs of duplicate journals, some from Dr. Long's collection.... Hershey has accepted these with thanks."

"In November, we were invited to examine the library of Max B. Lurie (1893–1966), Fellow of this College, and take from it any items of medical interest which we might want. We did so, taking certain comparatively recent printed materials on tuberculosis, about 5 linear feet of Dr. Lurie's correspondence, and the typescript of his book entitled *Resistance to Tuberculosis: Experimental Studies in Native and Acquired Defensive Mechanisms* (1964)."

Our late Fellow Dr. Theodore Cianfrani's (1899–1968) regard for the library's historical collections—developed in large measure during the period when he was preparing his *Short History of Obstetrics and Gynecology* (1960)—was signalized by his widow's fulfillment of his wish that his copy of a London edition of William Hunter's *Anatomy of the Gravid Uterus* be donated to the library. The undated edition turned out to be comparable, but happily not identical, with one in the collections.

Our extensive S. Weir Mitchell material—of continuous interest to medical historians—was gratefully enriched, through the then-President of the College, Dr. Francis C. Wood, by two items thoughtfully donated by another Fellow of the College, Dr. Edward H. McGehee: (1) a 4-line, typewritten poem inscribed "Harriet Frazier from Weir Mitchell"; and (2) a signed, manuscript letter to the same written in Bar Harbor, Maine.

The following purchase would also seem to merit recording: Mackenzie, Sir George Stewart (1780–1848): *Illustrations of Phrenology*. 17 plates. Edinburgh, 1820.

An historical item with more than casual association value to the College was received from one of its Fellows, Dr. Samuel B. Hadden, after its formal presentation to the Council of the College. It is a copy of Sir William Osler's exceedingly rare *Thomas Linacre,* published by the Cambridge (England) University Press, in 1908, which bears the following inscription: "J.G. Clark from his friend Wm Osler Oxford Aug. 3rd '08". Dr. Clark (elected to the fellowship in 1899) was Professor of Gynecology in the University of Pennsylvania. Accompanying the little book are (1) "one of Dr. Osler's famous penny post cards" (Dr. Hadden's description) addressed to Dr. James Wendell Reber (1867–

1916), a prominent Philadelphia ophthalmologist, though not a Fellow of the College; (2) a holograph note (1950) from Dr. Robert J. Hunter (Fellow) to Dr. Hadden, inquiring about this copy, and a copy of Dr. Hadden's reply, which documents the rarity of the edition; (3) Dr. Hadden's presentation-letter to President Francis C. Wood, with a copy of Dr. Wood's letter-of-thanks to Dr. Hadden. As a touching and fitting climax to this record, we note that, tipped into the little volume, there is a statement, signed by Dr. Hadden, that reads as follows: "Presented to the Philadelphia College of Physicians as an expression of admiration and appreciation for the activities of Samuel X Radbill, M.D. in behalf of the Library of the College and its many other activities."

Exhibits. Exhibits were prepared, and displayed in the lower lobby, for the following occasions: (1) the February program of the Section on Medical History; (2) the College's February forum entitled 'Population Avalanche'; (3) the Section on Medical History's and the Woman's Medical College of Pennsylvania's Kate Hurd Mead Lecture XX (April); (4) a summer exhibit drawing upon (a) a colorful collection of 19th/20th century pharmacotherapeutic card advertisements that had recently been presented by a Fellow and frequent donor, Dr. J. Monroe Thorington, and (b) more substantial material on the same subject that was selected and arranged by the Associate Curator; (5) the centennial of the birth of Harvey W. Cushing (Sept.); (6) the lecture by Ralph Nader on 'Consumer Protection' (Sept.); (7) the College's James M. Anders Lecture (Nov.); (8) a visit from members of the American Public Health Association (Nov.); (9) the November meeting of the College's Section on Medical History; (10) a representative collection of hitherto uncatalogued items in the historical collections that are now being catalogued, thanks to the American Philosophical Society grant (Dec.).

Fugitive Leaves. More pressing commitments again resulted in the publication of only one number: N.s., No. 92 (May 1969), Table of Contents and Index, N.s., Nos. 76–91.

Miscellaneous. Xerox copies of manuscript materials in (a) the Gilbert Collection; (b) the College's first Minute Book; (c) the College's Manuscript Archives were sent, on request, to the National Historical Publications Commission, Washington, D.C. They are scheduled to be published in two of the Commission's documentary projects: Ratification of the Constitution; The First Federal Congress.

A List of the Kate Hurd Mead Lectures in Medical History, I–XX, compiled by the Curator, was published in the Oct., 1969, issue of the College's *Transactions & Studies.*

W. B. McDaniel, 2d
Curator, Library
Historical Collections

2. Report of the Associate Curator and Cataloguer of Historical Materials.

Items Catalogued

Books added to the collection (including early and current works on the history of medicine, and gift books, also including volumes added to existing serials or sets)	832
Pamphlets (all but 17 having been done on the APS grant)	744
Pictures, documents, and manuscripts	187
Books and pamphlets recatalogued (because of misleading cards, erroneous entries, or misleading location symbols)	85
	1,848
Cards prepared	10,717

Special Activities

American Philosophical Society Project. During 1969, work on cataloguing of the pamphlet collections was continued by

Mrs. Elizabeth Bready, part-time cataloguer, and, at the close of the year, was augmented by the addition of another part-time cataloguer, Miss Frances Wright. Mr. Steven Peitzman continued as part-time searcher. The Associate Curator's part of this project, which is to recatalogue the manuscripts with a view toward publication of a catalogue, has also proceeded, although slowly, because of an increasing multiplicity of calls upon her time. One hundred and fifty-five of the "major" manuscripts—not including single-page documents, letters, or autographs—have been prepared.

New Arrangements for Use of the Library's Historical Materials. In August, 1969, the Historical Department undertook full service of the Cage, Gross, and Wood collections, requiring patrons—in most cases—to use these valuable materials in the Packard-Krumbhaar Alcove, and restricting access to the Cage and Gross and Wood bookcases to the President, Executive Director, the Librarian and his Assistant, and the staff of the Historical Department. These changes were made to insure greater safety and care in handling of these fragile and valuable materials.

In September, Miss Dagmar Nemecek came to us as Historical Assistant for Paging and Book Preservation, with certain clerical duties as well. The fact that this position is now full-time rather than part-time, as formerly, has enabled us to initiate some new indexing projects, particularly involving scrapbooks of fairly recent date. In response to the growing concern expressed by librarians and book experts throughout the country for the survival of virtually all journals, books and pamphlets—and our own are emphatically to be included in this endangered category—from the "bad paper" period (ca. 1870 to the present time), new techniques in book preservation have been explored by the Associate Curator during 1969, with some outside assistance, and with the encouragement of the College and Library administration. Plans have been formulated to alter and augment our presently very limited efforts in the field of preservation. These additional activities cannot, of course, be carried on in the Packard-Krumbhaar Alcove, which is already seriously overcrowded, in spite of diligent efforts at rearrangement.

Summer Career Intern. Having been informed by Macalester College, in St. Paul, Minnesota, of its program to place members of its junior class in summer jobs related to their ultimate field of work, we obtained the services of Miss Linnea Sodergren, a prospective library-school candidate, for June, July, and August. During this period she assisted in the searching of gift books through our catalogues, and also "calendared," or listed in some detail, the original letters, engravings, etc., compiled by Joseph Carson (1808–1876) into the first of a series of scrapbooks previously not analyzed. This summer's experience, financed in our case by Macalester's special funds, has proved valuable both to us and to the Intern, and we are prepared to repeat it, if opportunity offers.

Incidentally, in this connection, perhaps it should be noted that the Associate Curator has adopted a similar project—extra-curricular—of "calendaring" the contents of a large series of homoeopathic pamphlet volumes given to us by Hahnemann Medical College Library. The history of homoeopathy is a relatively unexplored field, and it is hoped that this activity will ultimately be of service to researchers. Also as an extra-curricular project, the Associate Curator—and her elder son—have undertaken the indexing and alphabetizing of mid-19th Century American medical obituaries appearing in the Transactions of the American Medical Association from 1850 onwards, and not generally noted elsewhere. Eventually we plan to publish this list as an aid to other persons exploring the sometimes rather

arid regions of latter 19th-century American medical biography.

Sale of Historical Duplicates. During 1969, one regular, miscellaneous List of Duplicates from the Historical Collections (no. 8) was issued, containing 94 items, of which 40 were sold. One special list, (no. EE) on obstetrics and gynecology, was issued, containing both historical and recent duplicates, to the number of 287; of these, 69 were sold. Counting in items sold from previous lists, and those sold to persons who made special inquiry regarding unlisted items, sales of duplicates by the Historical Department totalled 184 for the year.

Lisabeth M. Holloway
Associate Curator, Library Historical Materials

Medical Documentation Service

The data processing systems adopted late in 1967, the use of which increased during 1968, underwent further changes in 1969. Early in the year the Service Bureau Corporation of IBM made the decision to discontinue its on-line facilities for data processing; effective in the fall of the year. A careful survey of other service bureaus providing a dedicated text facility, gave little encouragement for replacement before the cut-off date for existing services. Consequently, a new graphic arts computer system was installed early in September to provide continuity of publication and closer control on the three abstracting journals published by MDS, namely BIRTH DEFECTS, INFLUENZA and CYSTIC FIBROSIS. With little or no interruption, the transition was made following a training program for the staff provided by IBM.

Mrs. Elizabeth Wright, previously trained to operate the 2741 administrative terminal, became more versatile with the advent of the new MTSC system and was appointed supervisor of the communications system including the 2741 ATS terminal, the MTSC (magnetic tape selectric composer), and the Mid-Eastern Regional Medical Library Service teletype communications system. Working with Mrs. Wright are Miss Linda Justice and Miss Anne McGinnis.

Miss Alberta D. Berton continued to serve as Director of MDS. Among her many professional obligations, she became President of the Special Libraries Council of Philadelphia and Vicinity and Chairman of the Annual National Information Retrieval Colloquium, which will be held in Philadelphia May 7–8, 1970. As Editor of the JIM List, a publication of the Philadelphia Regional Group of the Medical Library Association, Miss Berton will produce the 1970 edition this year as a computer operation rather than the hand paste-up of previous years. COPNIP (Committee on Pharmacomedical Nonserial Industrial Publications) a publication of the Pharmaceutical Division of the Special Libraries Association, gained wider recognition and subscriptions increased sizeably under Miss Berton's guidance and efforts as Business Manager. Miss Jean Carr, with her capability and infinite patience, contributed largely to the success of this endeavor. As a member of the National Microfilm Association, Miss Berton investigated the latest equipment available in this field on behalf of the library's interest in expanding its microfilm program.

Mrs. Pearl Stark, in her capacity as editor of MDS publications, did a beautiful job in bringing up to date publication releases and served as administrative support to the Director.

Miss Linda Frantz, Supervisor of the Scanning Service, broadened her activities this year by assuming product identification responsibility for the new toxicology contract acquired in June 1969 in conjunction with the Moore School of Electrical Engineering and the National Library of Medicine. The prime purpose of this program is to provide a data base of toxicity

information on a large number of chemical compounds having possible toxic effects on humans.

Miss Yoshi Nakayama continued as literature scientist and supervisor of search activities and Dr. Alfred Lisi as abstractor. MDS was fortunate this year to add to its staff the services of Dr. Adam Malc, a newcomer to the United States, who brought to the scanning service his linguistic skill in many foreign languages. Dr. Malc was formerly a physician in the Polish Army.

Miss Inger Robinson, who had served well in foreign literature scanning, left the staff to continue her education in Far East History by accepting a post in Japan. Mr. Ivan Kalmar, also a linguist, left for a six month scholarship in Israel, hoping to return to us some time in the future.

New staff members, having accepted posts to begin after the first of the year, are Mr. Fritz Danga, a bacteriologist and microbiologist, formerly of Norwich Pharmacal Company, and Mrs. K. Bernice Odom, former Medical Librarian of the S. H. Daroff Division of the Albert Einstein Medical Center, who as a literature scientist will assume responsibility for program coordination within the department.

Our ever dependable, ever faithful secretary, Miss Jean Carr, continues to serve the great demands of the increasing activities in MDS and oversees our clients' needs. Assisting her in bibliographic services and customer needs, Mrs. Eleanor Taylor has continued in her conscientous efforts to please the many people who seek MDS telephone services.

The Medical Documentation Service undertook to publish the Proceedings of the Proceedings of the 6th Annual National Information Retrieval Colloquium. At the close of the year this excellently received text had been released officially at the ASIS National Conference in San Francisco, the Medical Library Association National Conference in Louisville and the Special Libraries Association National Conference in Montreal.

A closer affiliation with BIOSIS and its Systems Director of Research and Development, Miss Louise Schultz, resulted in a reciprocal work arrangement beneficial to both organizations. Computer program assistance has been obtained from Miss Schultz in an effort to produce a Union List of Medical Periodicals for the tri-state area of the Mid-Eastern Regional Medical Program. Early in the year the programs were purchased from the Medical Library Center of New York to insure compatibility with the broader spectrum program which is underway among other Regional Medical Library Programs across the country.

Also late in the year, just prior to the holiday season, MDS acquired a commission from BIOSIS to translate some 90,000 foreign language titles by March 31, 1970. To accomplish this a full complement of linguistically skilled, scientifically oriented people was commandeered to meet this deadline.

Interest in our publication program and data base was manifested by the Plenum Publishing Corporation. Negotiations are underway and a pilot program commenced with an eye to a July 1 release date of a CLINICAL BIBLIOGRAPHICAL SERIES and a HUMAN GENETICS BULLETIN, hopefully two of many cooperative projects between the Medical Documentation Service and Plenum Publishing Corporation.

THREE YEAR COMPARATIVE STATISTICS, 1966–1969

	Nov. 1, 1966 to Oct. 31, 1967	*Nov. 1, 1967 to December 31, 1968*	*Jan 1, 1969 to Dec. 31, 1969*
Scanning references reported	8,746	10,442	13,686
Average number of subjects	34	71	83
Abstracts			
English	809	1,066	2,132
Foreign	395	648	970
Total Abstracts	1,204	1,714	3,102
Literature Searches and Bibliographic Services*	316	328	470*
Translations	124	81	54
Toxicology Contract to provide data base of compounds			306
Scientific papers and texts, documented, written and edited		2	10

* Added to the statistics above, approximately six clients are provided telephone bibliographic service on demand, which constitutes at least 6–10 requests a day for this service. If added to the above statistics, it would reflect a sizeable demand on MDS staff time to provide this service.

MDS supplies approximately 6,000 photoduplication exposures per month in response to telephone requests from clients and to meet departmental needs.

As in the past, the policy of providing Fellows of the College with five hours of free search service has been continued. Approximately 44 Fellows have utilized this service, resulting in some 99 free hours of service, representing what might have been $891 of paid service. Since staff time and personnel are essential to the provision of this ongoing courtesy to Fellows of the College, it represents a cost factor in our operational function not offset by income and is therefore mentioned here.

ALBERTA D. BERTON
Director

The Staff[9]

Librarian

Elliott H. Morse

Assistant to the Librarian

Mrs. Beatrice F. Davis

Library Secretary

Mildred C. Gray

Processing Dept.

Mrs. Sarah Caspari, Head

Cataloger

Carmine Salvato

Assistant Cataloger

Mrs. Kathryn Miragliotta

Junior Assistant

Josefa Sereda

Reference-Circulation Dept.

Readers Service Assistants

Mrs. Rhea Brown
Mrs. Kathryn Bernice Odom*
Matilde Zalinsky

Junior Assistant

Mrs. Juneann Lauderbach

Serials Dept.

Mrs. Marybeth Leary, Head

Serials Assistants

James Butler*
Thea Fischer*
E. Naomi Frazer
Mrs. Catherine Ledwell

Historical Collections

W. B. McDaniel, 2d, Ph.D., *Curator*
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Mrs. Judith Barnes, *Historical Ass't.*
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Linda Justice, *Adminis. Terminal System Operator*
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[9] Library Staff lists as of January 20, 1970.
* Part-time workers

Annual Report of the Mütter Museum and College Collections

The Mütter Museum continues to attract many visitors. Beside the schools and colleges represented, we have recently been getting visitors drawn here by an article and picture dealing with the museum that appeared in the November 1969 issue of *Philadelphia Magazine*. A variety of occupations are represented by these folk, namely, insurance salesmen, men working in the automotive field, factory workers, brick layers, truck drivers, school teachers, housewives, and the unemployed. Housewives are sometimes accompanied by children in the two and three year age bracket and they pose a problem. The adults are intent on examining the specimen, leaving the children to their own devices. They may proceed to run back and forth around the balcony, where a misstep could send them falling through the railing to the floor below. We have told these mothers that they are welcome to come at any time, but they must not bring their small children.

As usual we get many student nurses coming from the Montgomery Hospital, Norristown, St. Joseph's Hospital School of Nursing, Jefferson Medical College, and the University of Pennsylvania.

This is the first year that Cooper Hospital in Camden, New Jersey, sent student nurses, but we are sure it will not be the last because they were very interested. Dr. Harold D. Barnshaw, a Fellow of the College and also from Camden, brought a group of nursing students from the Wills Eye Hospital.

We find that the attitude of students is influenced by good teachers. This is particularly true in the case of students from the Claymont Junior-Senior High School in Delaware, and those from St. Leonard's Academy of Philadelphia. Mr. Harold E. Johnson, from Claymont, and Sister Adelaide, from St. Leonard's, are excellent teachers and accompany their groups to answer questions. In these two instances, the questions asked are always intelligent, showing that thought goes into every one.

Bio-science classes from Hahnemann Hospital were given talks and tours of the library and museum. Hahnemann Hospital also sent young ladies studying practical nursing, as well as registered nurses from the Philippines. Philippine nurses also came from the Presbyterian Hospital of Philadelphia.

If, some day, one comes into the museum and sees young men and women sitting cross-legged on the floor before a museum case, sketching, be advised that they are students from the Moore College of Art. We have noticed that these young people, often in unconventional dress, do exceptional work in sketching skulls and skeletons, while preparing for careers in illustration.

The Philadelphia College of Osteopathic Medicine sent students for the first time this year, and a new organization, the American Institute of Science and Technology, sent large groups—sometimes without previous arrangement, which upset the routine of the library and museum. Advance arrangement should be made for groups because the librarian and curator are obliged to make preparation for tours.

Franklin School of Science and Art students have been coming here for thirty years, and continue to do so. Classes from the Philadelphia Parkway High School Project were disappointing as they came only once and remained but briefly. Visitors from the Community College of Philadelphia were more interested and seemed to profit by their visit.

Some of the public school groups that visited the museum in the past did not appear this year. However, Dobbins Vocational School and the Wagner Public School sent large groups accompanied by instructors.

Bus loads of pupils from the Kennedy High School in Willingboro, New Jersey, are yearly visitors. In fact, they sometimes send two groups during the year. We also played host to biology classes from Central High School in Philadelphia and North Penn High School in Lansdowne.

We always have a few individual visitors from the Drexel Institute of Technology, but this year arrangements were made for groups to be given a tour of the library and museum.

Medical students from the University of Pennsylvania with their wives visited the College on December 7; about 100 in number, they were given a guided tour of the building.

Mrs. Ella N. Wade was reappointed curator for the year 1969–1970.

College Collections

Many interesting items were donated during the year. Some of them would ordinarily be catalogued as Mütter Museum specimens, except for the fact, stated several times before, that anything put in the museum collection could never again be taken out of the building. This makes it unavailable for study except within the walls of the College, so in recent years everything that is accepted is put in the College Collections.

Dr. Lowrain E. McCrea presented us with an electric cystoscope made in Leipzig, Germany; a cystoscope made in Vienna, Austria, formerly used by Dr. W. Wayne Babcock, Professor of Surgery at Temple University School of Medicine (1903–1943); and an endoscope with electrical cord and rheostat for examining the urethra. This is a forerunner of the modern panendoscope. Dr. McCrea also presented a micro-cystometer, used for measuring the tone of the urinary bladder.

A decapitating hook and a basiotribe were gifts of *Dr. A. Herbert Marbach.*

Mr. Peter D. Krumbhaar, son of the late Dr. Edward B. Krumbhaar, presented a marble bust of his father, made by A. Zellr in 1897 when Dr. Krumbhaar was about twelve years of age. Mr. Krumbhaar also presented the following medals that had been awarded to his father: American Heart Association, American Association of Pathologists and Bacteriologists, William Wood Gerhard, and The College of Physicians of Philadelphia. Because there are duplicates in the collection, the two latter ones will be kept for exchange.

An antique pewter hypodermic syringe containing a clinical thermometer was presented by *Dr. Samuel X. Radbill.*

Dr. J. Monroe Thorington, who has provided us with many votive offerings through the years, has added to this collection. One is from the Church of San Francisco at Acatepec and the Basilica de Soledad, Oaxaca. Another is from the Church of San Domingo, Mexico City, reputed burial place of Alvorado.

A very unusual instrument, called an "eye sharpener" and designed to improve failing eye sight by suction, was given to us by *Dr. M. Luther Kauffman,* who received it from a patient. It dates from the year 1840.

Dr. Fred B. Rogers added to our growing collection of military medical insignia by donating two U. S. Navy Medical Corps collar insignia: World War II and Korean War. This oak leaf and acorn device stems from the Druid attribution of strength and restorative power to that tree's timber and bows. He also presented a modern Pinard aluminum monaural stethoscope, and a porcelain cup commemorating the 75th anniversary of Temple University Hospital (1892–1967).

Dr. George I. Blumstein added two badges of the Congrès International de

Allergologie, held at Paris, France, in October 1958, to the collection.

A large travelling chest containing many endoscopic instruments, formerly belonging to Dr. Chevalier Jackson, was presented by *Dr. Charles M. Norris* of Temple University Hospital. He also donated a commemorative medal of Ernst Carl Schmiegelow, and one of Prof. Pierre Sebileau.

An original Schindler gastroscope (1935), used by the late Dr. Gabriel F. Tucker at the University of Pennsylvania Graduate Hospital, was presented by his son, *Dr. Gabriel F. Tucker, Jr.* of Temple University Hospital.

Mr. Paul Angstadt, of Clinical Laboratories, presented two antique clinical thermometers and an early hemocytometer (1880).

Early this year, *Mrs. Grace Goldin,* of Hamden, Connecticut, photographed the miniature portrait of Dr. Thomas Bond that is in the College Collections for Miss Elizabeth H. Thomson, editor of the *Journal of the History of Medicine and Allied Sciences* at Yale University, who is writing a biography of Dr. Bond. Later, Mrs. Goldin sent us an excellent colored photograph of the miniature.

Dr. Harold G. Scheie presented two loving cups that had been presented to Dr. Lawrence Webster Fox, formerly an ophthalmologist at the University of Pennsylvania. These were found in an antique shop at Chapel Hill by Dr. Morgan Hale of the University of North Carolina School of Medicine, and given to Dr. Scheie.

Dr. Joseph Hirsh of Temple University School of Medicine, who has donated many interesting military medical insignia, recently added thirty-three more which represent twenty-six countries. In an accompanying letter, he stated that as soon as others in his collection are catalogued, he also expects to give them to the College.

Mrs. Wade was reappointed Custodian of College Collections for the year 1969–1970.

Fred B. Rogers, M.D.
Chairman

List of College Lectures, 1969

8 January 1969

Aegerter, Ernest E. Metabolic Bone Disease—Fact and Fancy (Thomas Dent Mütter Lecture LXXX; *Transactions & Studies,* July 1969.)

1 March 1969

Community Health Forum on "Population Avalanche" (Mary Scott Newbold Lecture XCV; *Transactions & Studies,* July 1969.) Chairman: Francis C. Wood. Moderator: Luigi Mastroianni, Jr. Participants: Benjamin Viel, Alan Guttmacher, Bernard Berelson

15 April 1969

Rogers, Fred B. Dr. William Bryant (1730–86): American Physician and Antiquary (Kate Hurd Mead Lecture XX; *Transactions & Studies,* October 1969.)

14 May 1969

Middleton, Elliott, Jr. Mechanism of Bronchoconstriction in Asthma (Hira S. Chouke Lecture VIII.)

1 October 1969

Nader, Ralph. Consumer Protection and the Roles of the Professions (Mary Scott Newbold Lecture XCVI.)

5 November 1969

English, Joseph T. Health Care for the 1970's (James M. Anders Lecture XLVIII: *Transactions & Studies,* January 1970.)

3 December 1969

Pittendrigh, Colin S. Living Clocks (Alvarenga Prize Lecture XXVIII.)

8 December 1969

Boutwell, Joseph H., Jr. Multiphasic Health Testing (Arthur Parker Hitchens Lecture XIII; *Transactions & Studies,* January 1970.)

Transactions of the Sections

SECTION ON MEDICAL HISTORY

11 February 1969

Music, Medicine and Academia. F. William Sunderman, M.D.

Notes on the History of Medicine in Hungary. George Polgar, M.D.

15 April 1969

Dr. William Bryant (1730–86): American Physician and Antiquary. Fred B. Rogers, M.D. (Kate Hurd Mead Lecture XX)

18 November 1969

Philadelphia Neurosurgical Society. Frederick Murtagh, Jr., M.D.

Dr. Max Peet and his Contributions to Neurosurgery. Philip D. Gordy, M.D.

The Massa Hoax. R. Norton Hall, M.D.

SECTION ON OPHTHALMOLOGY[1]

16 January 1969

Virology and the Eye Symposium

Moderator: Morton Klein, PH.D.*

Virus Disease: Pathogenesis and Host Defenses. Samuel Baron, M.D.*

The Effect of Complexed Synthetic RNA (PC:PI) on Herpetic Keratitis in Rabbit. Ralph Pollikoff, PH.D.*

Recurrent Herpetic Keratitis: Manifestations and Therapy. Peter R. Laibson, M.D.*

20 February 1969

Symposium on Diabetic Retinopathy

Moderator: Harold A. Hanno, M.D.*

Pathogenesis of Visual Loss in Diabetic Retinopathy. Myron Yanoff, M.D.*

An Appraisal of Pituitary Ablation in the Treatment of Hemorrhagic Diabetic Retinopathy. Richard A. Field, M.D.*

Xenon Photocoagulation in the Treatment of Diabetic Retinopathy. William S. Tasman, M.D., William H. Annesley, Jr., M.D.

Lazer Photocoagulation of Diabetic Retinopathy. Lloyd M. Aiello, M.D.*

20 March 1969

Eye Sharpener. M. Luther Kauffman, M.D.

Coagulation and the Pill. George Povey, M.D.*

The Pill and the Eye. Frank B. Walsh, M.D.*

Extra Ocular Neurophthalmologic Implications of the Pill. Thomas R. Hedges, Jr., M.D.

17 April 1969

Whither Medical Education Symposium

Moderator: Arthur H. Keeney, M.D.

Issues in Delivery of Health Care. Victor C. Vaughan, III, M.D.*

Clinical Practice in the United Kingdom under National Health Service. Peter Watson, M.D., F.R.C.S.*

Educational Techniques. Kenneth T. Richardson, M.D.*

Information Centers and Continuing Education. Robert R. Reineche, M.D.*

20 November 1969

An Analysis of Congenital Ptosis: Causes, Types and Factors Important to Its Correction. Edmund B. Spaeth, M.D. (Thirty-second Annual de Schweinitz Lecture)

* By invitation.

[1] Abstracts of the presentations at this Section customarily appear in the *American Journal of Ophthalmology* and *A.M.A. Archives of Ophthalmology.*

SECTION ON OTOLARYNGOLOGY[2]

15 January 1969

A Laryngoscopic Clinic. David Brewer, M.D.,* Clinical Professor of Laryngology, State University of New York.

19 March 1969

Tympanoplasty. Richard J. Bellucci, M.D. (Discusser: Louis Silcox, M.D.)

Tracheal Stenosis. Daniel Baker, M.D. (Discusser: Joseph Atkins, M.D.) (Annual combined meeting with Section on Otolaryngology of the New York Academy of Medicine, held at the New York Academy of Medicine.)

* By invitation.

[2] Abstracts of the presentations at this Section customarily appear in the *A.M.A. Archives of Otolaryngology*.

19 November 1969

The Temporal Bone in Paget's Disease. Garfield Davies.

Management of Carcinoma of the lip. James Leonard, M.D.

Adventures and Misadventures in Middle Ear Surgery. Eugene Rex, M.D.

SECTION ON PUBLIC HEALTH, PREVENTIVE AND INDUSTRIAL MEDICINE

8 December 1969

Mupltiphasic Screening. Joseph H. Boutwell, PH.D., M.D. (Arthur Parker Hitchens XIII; *Transactions & Studies,* April, 1970.)

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1967. Abbiss, Joseph W., St. Francis Hospital, 8th & Dupont Sts., Wilmington, Del. (19805)
1952. Abelson, Neva Martin, 220 Locust St. (19106)
1961. Adamson, William C., 1542 Susquehanna Rd., Rydal, Pa.
1968. Adams, Raymond E., 514 Cooper St., Camden, N.J. (08102)
1926. Adler, Francis Heed, 8870 Towanda St. (19118)
1959. Adlin, Albert, 1512 Lindley Ave. (41)
1949. Aegerter, Ernest E., 3400 N. Broad St. (40)
1953. Agerty, Horst A., 1230 Burmont Rd., Drexel Hill, Pa. (19026)
1960. Ainsworth, Thomas H., Jr., 960 County Line Rd., Bryn Mawr, Pa.
1964. Albert, Seymour M., 255 S. 17th St. (19103)
1963. Albright, Edwin P., 512 E. Mt. Airy Ave. (18)
1967. Alexander, Charles M., 930 W. Sproul Road, Springfield, Pa. (19064)
1958. Alexander, John Deaver, 590 E. Chestnut St., Coatesville, Pa. (19320)
1962. Alexander, John Dewey, Jr., 330 S. 9th St. (7)
1935. Alpers, Bernard J., 111 North 49th St. (39)
1960. Ames, Mary D., 260 St. James Place (6)
1961. Amsterdam, Gerald H., 1201 W. Olney Ave. (19141)
1962. Annesley, William H., Jr. 39 Glendale Road, Upper Darby, Pa.
1961. Anthony, Russell A., 385 Lancaster Ave., Haverford, Pa.
1961. Aponte, Gonzalo E., 1025 Walnut St. (7)
1930. *Appel, Kenneth E., 206 Glenn Rd., Ardmore, Pa. (19003)
1968. Apple, Stanley B., 333 West State St., Trenton, N.J. (08618)
1960. Arey, James B., 2600 N. Lawrence St. (33)
1959. Arkless, Henry A., 255 S. 17th St. (3)
1967. Armitage, Harry V., 400 E. 13th St., Chester, Pa. (19013)
1922. Arnett, John H., 2116 Pine St. (3)
1967. Aronson, Marvin E., Office of Medical Examiner, 13th & Wood Sts. (19107)
1952. Ash, Rachel, 326 S. 19th St. (19103)
1952. Aston, Melville J., 6 Circle Drive, Margate, N.J. (08402)
1944. Atkins, Joseph P. 1201 Knox Rd., Wynnewood, Pa.
1956. Atkinson, John B., 410 Township Line Rd., Havertown, Pa. (19083)
1935. Atlee, John L., Jr., 822 Marietta Ave., Lancaster, Pa. (17603)
1952. Atlee, William A., 822 Marietta Ave., Lancaster, Pa. (17603)
1963. Austrian, Robert, Hospital of the University of Pennsylvania (4)
1958. Ayella, Alfred S., Jr., 1213 S. Broad St. (47)
1937. Bacon, Emily P., 803 E. Darby Rd., Havertown, Pa. (19083)
1958. Baer, Samuel, 5123 N. Broad St. (41)
1959. Baird, Henry Welles, III, 2600 N. Lawrence St. (33)
1952. Baifr, Howard N., 1333 Chestnut St. (19107)
1952. Baker, Howard W., 3401 N. Broadway St. (40)
1963. Baker, Richard B., 1851 E. Allegheny Ave. (34)
1967. Baker, Richard P., Jr., Misericordia Hospital (19143)
1946. Baker, Walter W., 315 Glenn Rd., Ardmore, Pa. (19003)
1963. *Balin, Howard, 330 S. 9th St. (7)
1957. Baltzell, William Hewson, 1530 Locust St. (2)
1969. Bannett, Aaron D., 1335-49 W. Tabor Rd. (19141)
1940. Barba, Philip S., 120 Erdenheim Road (18)
1943. Barden, Robert P., 8835 Germantown Ave. (18)

* S. Weir Mitchell Associate

1939. *Barnshaw, Harold D., 526 Cooper St., Camden, N.J. (08102)
1969. Baronofsky, Ivan D., P.O. Box 23158, San Diego, Calif. (92123)
1957. *Barr, Stanley, 255 S. 17th St. (3)
1939. Bartle, Harvey, Jr., Glenbrook Medical Bldg., 864 County Line Rd., Bryn Mawr, Pa.
1963. Bassett, James G., 3300 Henry Ave. (19129)
1932. Batson, Oscar V., 3926 Pine St. (4)
1921. Bauer, Edward L., Alden Park Manor (44)
1933. Bauer, John T., 312 E. Second St., Moorestown, N.J.
1939. Baumann, Frieda, 200 N. Wynnewood Ave., Wynnewood, Pa.
1930. Beardwood, Joseph T., Jr., 1245 Highland Ave., Abington, Pa. (19001)
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1935. Beerman, Herman, 255 S. 17th St. (3)
1942. Behrend, Albert, Coventry House, Valley Rd. & Coventry Ave. (19126)
1945. Behrend, Bernard, 5910 Greene St. (44)
1949. Beizer, Lawrence H., 419 South 19th St. (46)
1936. Bell, Benjamin Tertius, 1941 Woodland Rd., Abington, Pa.
1956. Beller, Martin Leonard, 1936 Spruce St. (3)
1947. Bellet, Samuel, 2021 Spruce St. (3)
1969. Belmont, Herman S., 249 N. Broad St. (19107)
1956. Belmont, Owen, 5723 No. Park Ave. (41)
1959. Berk, Nathaniel G., 2534 W. Cheltenham Ave. (50)
1951. Bernstine, J. Bernard, 255 S. 17th St. (3)
1965. Berry, Richard G., 1025 Walnut St. (19107)
1970. Berry, Robert E., 2222 S. Broad St. (19132)
1956. Berry, Theodore J., 300 E. Lancaster Ave., Wynnewood, Pa. (19096)
1967. Beyer, Karl H., Jr., Merck Sharp & Dohme Res. Labs., West Point, Pa. (19486)
1957. Biele, Albert M., 1530 Locust St. (19102)
1964. Biele, Flora H., 1103 Spruce St. (19107)
1918. Billings, Arthur E., 2020 Spruce St. (3)
1957. Birdsall, Thomas M., 255 S. 17th St. (3)
1969. Birtwell, William M., 3401 N. Broad St. (19140)
1949. Bishop, Edward H., 811 Spruce St. (7)
1933. Bishop, Paul A., The Dorchester, 226 W. Rittenhouse Sq. (19103)
1970. Black, Herman M., Dept. Radiology, Graduate Hosp. (19146)
1944. *Blady, John V., Parkway House, 2201 Benjamin Franklin Pkwy. (30)
1960. Blake, Alton D., Jr., Bryn Mawr Medical Bldg., Bryn Mawr, Pa.
1952. Blake, Paul O., 273 N. Lansdowne Ave., Lansdowne, Pa.
1958. Blakemore, William S., 419 S. 19th St. (46)
1917. Block, Frank B., A1124 Park Drive Manor (44)
1963. Block, Reuben, 1555 Haddon Ave., Camden, N.J.
1969. Blocklyn, Maurice J., School Lane, Rose Valley, Moylan, Pa. (19065)
1949. *Blumstein, George I., 2039 Delancey St. (3)
1929. *Bockus, Henry L., 250 S. 18th St. (3)
1928. *Boles, Russell S., Rittenhouse Plaza, 1901 Walnut St. (3)
1961. Bongiovanni, Alfred M., 1740 Bainbridge St. (46)
1948. Bookhammer, Robert S., 249 Hilldale Rd., Villanova, Pa. (19085)
1931. Bortz, Edward Le Roy, Lankenau Medical Bldg. (19151)
1947. Bourland, Henry S., 2219 Garret Rd., Drexel Hill, Pa.
1961. Bouzarth, William F., Episcopal Hospital (19125)
1961. Bove, Frank A., 2301 Pennsylvania Ave. (30)
1968. Bowen, Thales, Jr., Lankenau Hosp. (19151)
1954. Bowers, Paul A., 2031 Locust St. (3)
1942. Bowie, Morris A., Bryn Mawr Medical Bldg., Bryn Mawr, Pa.
1963. Boyer, Randal A., Holy Redeemer Hospital, Meadowbrook, Pa.
1964. Brackin, John T., Jr., Lansdale Clinic Bldg., S. Broad St. & Allentown Rd., Lansdale, Pa. (19446)

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* S. Weir Mitchell Associate

1965. Brady, Anna M., 3302 W. Queen Lane (19129)
1959. Brady, Luther W., 230 N. Broad St. (19102)
1954. Bralow, S. Philip, Dept. Medicine, Jefferson Div., Phila. General Hosp. (19104)
1942. Branen, William T., Whitby & Cypress Aves., Yeadon, Pa.
1921. Bransfield, John W., 2031 Locust St. (3)
1948. Braun, William, 406 Cooper St., Camden, N.J. (08102)
1953. *Brav, Solomon S., 5575 N. Park Ave. (4)
1953. Breckenridge, Robert L., 414 Haddon Ave., Collingswood, N. J. (08108)
1964. Brenman, Arnold K., 3701 N. Broad St. (19140)
1966. Brent, Robert L., Jefferson Medical College (19107)
1961. Breslow, Irwin H., 1924 Panama St. (19103)
1946. *Briscoe, Clarence Conway, 811 Spruce St. (7)
1953. Brobeck, John R., Univ. of Pa. School of Medicine (4)
1958. Brody, Henry, Einstein Medical Center, York & Tabor Rds. (41)
1965. Brody, Jerome I., Graduate Hospital, 19th & Lombard Sts. (19146)
1952. Brody, Morris W., 2 W. Levering Mill Rd., Cynwyd, Pa. (19004)
1948. Brogan, Edmund J., 4601 Market St. (19139)
1958. Brooks, Frank P., Hospital of the Univ. of Pa. (4)
1932. *Brown, Claude P., 1930 Chestnut St. (3)
1967. Brown, Clement R., Jr., Chestnut Hill Hospital (19118)
1963. Browne, Laurence T., Presidential Apts., D126 (19131)
1961. Brunt, Manly Y., 111 N. 49th St. (39)
1939. Brust, Raymond M., 301 Mill Rd., Havertown, Pa. (19083)
1969. Bryant, Winston M., Jr., 5900 Spruce St. (19139)
1969. Buchheit, William A., 3401 N. Broad St. (19140)
1961. Buerk, Minerva S., Bryn Mawr Medical Bldg., Bryn Mawr, Pa.
1962. *Burgoon, Carroll F., Jr., Skin & Cancer Hospital, 3322 N. Broad St. (19140)
1940. *Burnett, W. Emory, 47 E. Righters Mill Rd., Narberth, Pa. (19072)
1962. Burney, Leroy E., 3400 N. Broad St. (40)
1966. Burns, William P., 3400 Spruce St. (19104)
1954. Burros, Harry M., 419 S. 19th St. (46)
1968. Burrows, Stanley, Cooper Hosp., Camden, N. J. (08103)
1966. Burstein, Frank, 8541 Bustleton Ave. (19152)
1941. Butler, Miriam, Watersmeet, Glen Mills, Pa.
1957. *Butterworth, Thomas, 411 Walnut St., Reading, Pa.
1965. Byron, Harold J., Wyncote House, Wyncote, Pa.
1966. Cahn, Milton M., 1930 Chestnut St. (19103)
1957. Calhoun, John Alfred, Jr., 214 Elm Ave., Swarthmore, Pa.
1958. Cameron, Charles S., 235 N. 15th St. (2)
1962. Camishion, Rudolph C., Suite 303, Cooper Parkway West, N. Park Drive & Airport Highway, Pennsauken, N.J. (08109)
1952. Campbell, Edward W., Abington Memorial Hospital
1944. Campion, Richard J., Box 136, Springhouse, Ambler, Pa.
1964. Cancelmo, Jesse J., Jr., 337 W. Lancaster Ave., Wayne, Pa.
1970. Canino, Christopher W., 1900 S. Broad St. (19145)
1967. Carabasi, Ralph A., 225 S. 17th St. (19103)
1935. Carey, Lawrence S., 2241 Garrett Road, Drexel Hill, Pa.
1970. Carmichael, Paul L., 601 E. Main St., Lansdale, Pa. (19046)
1930. Carpenter, Chapin, 502 Chestnut Lane, Wayne, Pa.
1959. Carrington, Elsie R., Woman's Medical College (29)
1960. Carroll, Robert T., 1015 Chestnut St., Jefferson Bldg., Room 803 (19107)
1917. Carson, John B., Newton Square, Pa.
1956. Carty, James Bryon, 51 Hampden Rd., Upper Darby, Pa.
1956. Casey, Paul R., 8350 Roosevelt Blvd. (19152)
1943. Castigliano, S. Gordon, Central & Shelmire Aves. (19111)
1949. Caswell, H. Taylor, 3401 N. Broad St. (40)

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* S. Weir Mitchell Associate

1954. Catenacci, Alfred J., 343 Winding Way, Merion Station, Pa.
1954. Cathcart, Richard T., Jefferson Hospital, 1025 Walnut St. (7)
1950. *Chamberlain, Richard H., 3400 Spruce St. (4)
1939. Chamberlin, George W., Reading Hospital, Reading, Pa.
1967. Chambers, Richard A., 1025 Walnut St. (19107)
1966. Chamblin, William D., 3717 Chestnut St. (19104)
1945. Chance, Burton, Jr., 4400 Baltimore Ave. (19104)
1958. Channick, Bertram J., 3701 N. Broad St. (19140)
1954. *Charny, Charles W., 2039 Delancey Pl. (3)
1966. Chernoff, Benjamin, 6901 Old York Rd. (19126)
1969. Chesnick, Reuben B., 517 Penn St., Camden, N.J. (08102)
1960. Chirico, Anna-Marie, Hosp. of Univ. of Pa. (4)
1966. Chisum, Melvin J., 245 N. Broad St. (19107)
1939. Ciccone, Emmet F., 2000 Willowbrook Rd., Huntingdon Valley, Pa. (19006)
1960. Cinquino, Mario A., 1518 S. Broad St. (46)
1960. Clader, Stanley C., 825-A Glenbrook Ave., Bryn Mawr, Pa.
1951. Clagett, A. Henry, Jr., 515 W. Eighteenth St., Wilmington, Del. (19802)
1966. Clark, Gerald R., Elwyn School, Elwyn, Pa. (19063)
1962. Clark, James E., Crozer-Chester Med. Center, 15th & Upland Aves., Chester, Pa. (19013)
1951. Clark, John K., Regional Med. Program, Rm. 2201, 3401 Market St. (19104)
1947. Clark, Thomas William, 5218 W. Chestnut Hill Ave. (18)
1963. Cleveland, Albert F., 615 Morgan Ave., Drexel Hill, Pa.
1958. Closson, Edward W., 2320 S. Broad St. (45)
1969. Cohen, Erwin A., 6735 Harbison Ave. (19149)
1949. Cohen, Louis B., 1320 Arrott St. (24)
1970. Cohen, Norman N., Misericordia Hosp. (19143)
1953. Cohen, Robert V., 520 Spring Ave., Elkins Park 17, Pa.
1967. Cohen, Sarle H., 1201 W. Olney Ave. (19141)
1965. Cohn, Edwin M., 1351 Tabor Rd. (19141)
1964. Cohn, Herbert E., 829 Spruce St. (19107)
1934. Collins, Leon Howard, Jr., 1236 Arwyn Lane, Gladwyne, Pa. (19035)
1949. Conger, Kyril B., 3401 N. Broad St. (40)
1961. Coon, Julius M., 1025 Walnut St. (7)
1945. Coonel, Pauline, 47 E. Mt. Pleasant Ave. (19)
1930. *Cooper, David A., 1328 Medford Rd., Wynnewood, Pa. (19096)
1953. *Cooper, Donald R., Woman's Medical College, 330 Henry Ave. (29)
1960. Cooper, Edward Sawyer, 6710 Lincoln Drive (19)
1947. Coppolino, John F., 22 Pickthorn Drive, Batavia, N.Y. (14020)
1952. *Corbit, John D., Jr., 414 Lankenau Medical Bldg. (19151)
1959. Cormeny, George F., 3818 Chestnut St. (4)
1965. Cornelison, Floyd S., Jr., 1025 Walnut St. (19107)
1941. Cornelius, Chalmers E., 119 Summit Ave., Jenkintown, Pa.
1968. Cortes, Felix M., Temple Univ. Hosp. (19140)
1940. Cowan, Thomas H., 1930 Chestnut St. (3)
1967. Cox, J. William, 2906 N. Kensington St., Arlington, Va. (22207)
1966. Cram, Robert H., 918 County Line Rd., Bryn Mawr, Pa. (19010)
1947. *Crane, A. Reynolds, Pennsylvania Hospital (7)
1952. Crellin, J. Antrim, 1930 Chestnut St. (3)
1968. Crichlow, Robert W., 3400 Spruce St. (19104)
1955. Crist, Walter A., 211 N. 5th St., Camden, N.J.
1968. Croll, Millard N., Hahnemann Hosp. (19102)
1959. Cullen, Milton L., 1936 Cottman Ave. (19111)
1962. Cunningham, John D., 3400 Spruce St. (4)
1934. Custer, R. Philip, 643 Moreno Road, Narberth, Pa.
1958. D'Alonzo, Walter A., 1647 S. 15th St. (45)
1938. Dannenberg, Arthur M., Sr., 235 S. 15th St. (2)

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* S. Weir Mitchell Associate

1968. Daughtridge, Truman G., 8835 Germantown Ave. (19118)
1969. Davidson, Jay H., 1002 Spruce St. (19107)
1951. *Davis, J. Wallace, 135 S. 18th St. (3)
1947. *Davids, C. Nelson, 524 Howe Rd., Merion Station, Pa.
1953. Davie, John H., 216 N. Broad St. (19102)
1970. Davis, Charles M., Jr., 918 County Line Rd., Bryn Mawr, Pa. (19010)
1936. Davis, David M., 960 County Line Rd., Bryn Mawr, Pa. (19010)
1961. Dawber, Bryan A., Penn Mutual Life Insurance Co. (5)
1963. Day, H. James, Temple University Hospital (19140)
1935. *Deaver, J. Montgomery, Lankenau Medical Bldg. (19151)
1957. Decker, John Paul, Pennsylvania Hospital (7)
1957. Dees-Porch, Frances, Glendale Road & Chestnut Sts., Upper Darby, Pa.
1947. Dehne, Theodore L., 240 E. Gravers Lane (19118)
1958. Deitz, George W., III, 2240 Pine Rd., Huntingdon Valley, Pa.
1952. DeLuca, Charles Q., 255 S. 17th St. (3)
1969. Denbo, Elic A., 300 Broadway, Camden, N.J. (08103)
1952. De Orsay, Ralph H., 1241 Lindale Ave., Drexel Hill, Pa.
1951. *De Palma, Anthony F., 248 S. 21st St. (3)
1963. Derham, Robert J., McClatchy Bldg., Upper Darby, Pa.
1966. deRivas, Carmela F., Stanbridge & Sterigere Sts. Norristown, Pa.
1969. Desiderio, Vincent C., 1907 S. Broad St. (19148)
1959. DeTuerk, John J., 2301 S. Broad St. (19148)
1959. Dickens, Helen O., University of Pa. Hosp. (19104)
1968. Dickensheets, James G., 223 S. 6th St., Camden, N.J. (08103)
1958. Dickstein, Benjamin, 6810 Castor (24)
1956. Dietrich, Herbert James, Jr., Hospital of the University of Pennsylvania (4)
1952. Digilio, Victor A., 2200 St. James Place (17)
1963. DiMarino, Anthony J., 735 Delaware St. Paulsboro, N. J.
1960. Dinon, Louis R., 330 S. 9th St. (7)
1968. Di Palma, Joseph R., 235 N. 15th St. (19102)
1920. Doane, Joseph C., 5286 34th Ave., N., St. Petersburg, Fla. (33710)
1948. Dohan, Francis Curtis, 80 Princeton Road, Cynwyd, Pa.
1969. Dolphin, John M., 235 N. 15th St. (19102)
1954. Donaldson, James B., 3401 N. Broad St. (19140)
1967. Donnelly, Joseph C., Jr., Lankenau Medical Bldg. (19151)
1962. Dorman, Philip J., 220 Sycamore Mills Rd., Media, Pa. (19063)
1967. Dougherty, Malvin J., 34 Copley Rd., Upper Darby, Pa. (19082)
1964. Dratman, Mary B., Woman's Medical College, Henry Ave. & Abbottsford Road (19129)
1952. Drayer, Calvin S., 111 N. 49th St. (39)
1949. *Dripps, Robert D., 3400 Spruce St. (4)
1969. Drossner, Jacob L., 101 E. Cooper River Plaza, Pennsauken, N.J. (08109)
1935. Duncan, Garfield G., 330 S. 9th St. (7)
1966. Duncan, Theodore G., 330 S. Ninth St. (19107)
1953. Dupler, Donald A., 4028 Walnut St. (4)
1942. *Durant, Thomas M., Einstein Medical Center, N.D., York & Tabor Rds. (19141)
1942. Dyer, W. Wallace, Executive Director, The College of Physicians of Phil., 19 S. 22 St. (19103)
1962. D'Zmura, Thomas L., Presidential Apts., City Line Ave. & Presidential Blvd. (19131)
1969. Dzwonczyk, John, Jr., 5300 Cedar Ave. (19143)
1936. Easby, Mary Hoskins, R.D. 2, Shelburne, Vt. (05482)
1964. Eberlein, Walter R., 1740 Bainbridge St. (19146)
1966. Ehrlich, George E., Albert Einstein Medical Center, N.D. (19141)
1956. *Eiman, John W., Abington Memorial Hospital, Abington, Pa.
1962. Eisenberg, Samuel W., 3536 N. Broad St. (40)
1959. Eisenhower, James S. D., Jr., 2704 Pacific Ave., Wildwood, N.J.
1958. *Eisman, Sylvan H., 3600 Spruce St. (4)

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* S. Weir Mitchell Associate

1959. Elias, Elmer J., 10 Monticello Ave., Trenton, N.J.
1949. Elkinton, J. Russell, Oak Lane, Moylan, Pa.
1961. Elliott, Frank A., 807 Spruce St. (7)
1957. Ellis, Richard A., 255 S. 17th St. (3)
1955. Ellis, Samuel, 275 Bryn Mawr Ave., Bryn Mawr, Pa. (19010)
1939. Ellis, Van Mashburn, 1528 Spruce St. (2)
1928. Ellison, Richard T., Medical Office Bldg., 1245 Highland Ave., Abington, Pa. (19001)
1936. Ellson, J. Vernon, Glendale Road & Chestnut St., Upper Darby, Pa.
1937. *Elsom, Kendall A., Scott Paper Co. (13)
1932. Engel, Gilson C., Lankenau Medical Bldg. (19151)
1945. *English, O. Spurgeon, 449 Righters Mill Rd., Narberth, Pa.
1965. Epstein, Isadore S., 5219 Lebanon Ave. (19131)
1942. Erb, William H., 133 S. 36th St. (4)
1957. Erdman, William James, II, 3400 Spruce St. (4)
1965. Erslev, Allan J., 1015 Sansom St. (19107)
1957. Etzl, Michael M., 9025 Frankford Ave. (14)
1955. Eyon, Harold K., Route 70 at East Gate, Barclay Farm, Haddonfield, N.J.
1968. Faludi, Georgina, Hahnemann Hosp. (19102)
1946. Farell, David M., 1912 Spruce St. (3)
1945. Farrar, George Elbert, Jr., 528 Scott Rd., Gladwyne, Pa.
1953. Farrell, Harry L., 1930 Chestnut St. (3)
1964. Faust, Herbert A., Paoli Memorial Hosp. Med. Bldg., W. Lancaster Ave., Paoli, Pa. (19301)
1936. *Fetter, Ferdinand, 322 S. 21st St. (3)
1945. Fetter, John S., 1980 Country Club Dr., Huntingdon Valley, Pa. (19006)
1952. *Fields, Harry, 133 S. 36th St. (4)
1959. Fineberg, Charles, Franklin Med. Bldg., 829 Spruce St. (19107)
1955. Finestone, Albert J., 3701 North Board St. (40)
1943. *Finkelstein, Arthur K., Graduate Hospital (46)
1955. Finkelstein, David, 419 S. 19th St. (46)
1955. *Finley, John K., 527 Welsh St., Chester, Pa.
1954. *Finn, Joseph L., 8014 Burholme Ave. (11)
1947. First, Arthur, 1714 Spruce St. (3)
1954. Fischer, Carl C., Penn Towers Apt. (19103)
1950. *Fischer, H. Keith, School Lane House, 5450 Wissahickon Ave. (19144)
1962. Fisher, George R., III, 801 Spruce St. (7)
1958. Fisher, Robert M., 118 Airdale Rd., Rosemont, Pa.
1956. Fite, Franklin K., Germantown Hospital (44)
1952. Fitts, William T., Jr., 3400 Spruce St. (4)
1970. Fleischmajer, Raul, 230 N. Broad St. (19102)
1952. Flexner, Louis B., 248 Anatomy-Chemistry Bldg., Univ. of Pa. (4)
1928. *Flick, John B., 819 Black Rock Rd., Gladwyne, Pa.
1957. Fornwalt, George R., 47 Copley Rd., Upper Darby, Pa.
1954. Forster, H. Walter, Jr., 37 S. 20th St. (3)
1960. Foulger, John H., 601 Rockwood Rd., Wilmington, Del. (2)
1963. Fox, Eva F., Woman's Medical College (19129)
1963. Frank, Paul E., York Road & Summit Ave., Hatboro, Pa.
1963. Frank, Robert L., 1282 Rydal Rd., Rydal, Pa. (19046)
1955. Frayer, William C., Franklin Med. Bldg., 829 Spruce St. (19107)
1941. Frazier, William Doane, 419 Gilpin Rd., Narberth, Pa.
1952. Freed, Herbert, 255 S. 17th St. (3)
1956. Freeman, Joseph T., 8-A Rittenhouse Plaza (3)
1963. Freiman, Henry D., 1500 Hellerman St. (49)
1964. French, Gordon N., Univ. of Pa. Sch. of Medicine (19104)
1951. Friedman, Paul Sigmund, 1422 Chestnut St. (2)
1960. Friedman, Sidney, 1740 Bainbridge St. (46)
1958. Friewald, Milton J., 222 S. 19th St. (3)

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1955. Friedenberg, Zachary B., 133 S. 36th St. (4)
1958. Frisch, Frederick, 7 S. Dudley Ave., Ventnor City, N.J. (08046)
1937. Fritz, Herbert H., Pennswood Rd., Bryn Mawr, Pa.
1961. Frobese, Alfred S., Abington Memorial Hosp., Abington, Pa.
1953. Fruchter, Joseph M., The Philadelphian, 2401 Pennsylvania Ave. (19130)
1935. Fry, Wilfred Eyles, 1930 Chestnut St. (3)
1963. Furgiuele, Francis P., 5430 Greene St. (19144)
1937. Furlong, Thomas F., Jr., Times Medical Building, Ardmore, Pa.
1967. Futcher, Palmer H., 3930 Chestnut St. (19104)
1964. Galligan, William J., 2909 Garrett Road, Drexel Hill, Pa.
1954. Gambescia, Joseph M., 1322 Race St. (2)
1969. Ganz, Michael A., R.D. #2, Box 207, Perkasie, Pa. (18944)
1966. Garcia, Celso-Ramon, University Hospital (19104)
1969. Gardiner, George C., 907 Pine St. (19107)
1951. Garlichs, Richard W., 216 N. Manoa Road, Havertown, Pa.
1931. Garner, Vaughn C., 477 East Wadsworth St. (19)
1953. Garnet, James D., 807 Spruce St. (7)
1959. Gartland, John J., 269 S. 19th St. (3)
1950. Garvin, Eugene J., 533 S. 46th St. (43)
1958. Geckeler, George D., 22 W. Bells Mill Rd. (19118)
1952. Gefter, William I., Episcopal Hosp. (19125)
1969. Gehring, David A., Medical Arts Bldg., Suite 21, W. Red Bank Ave., Woodbury, N.J. (08096)
1935. Geist, Donald C., 510 Cynwyd Circle, Cynwyd, Pa. (19004)
1955. Gelfand, David, 1722 Pine St. (3)
1969. Gellhorn, Alfred A., 3400 Spruce St. (19104)
1965. Georges, Thomas W., Jr., 3400 N. Broad St. (19140)
1941. *Gershon-Cohen, J., 255 S. 17th St. (3)
1959. Gerson, Irvin M., Cedarbrook Apts., Cedarbrook Hills, Wyncote, Pa. (19095)
1968. Gerstley, Louis, III, 2534 W. Cheltenham Ave. (19150)
1955. Gettes, Bernard C., 128 Overhill Rd., Cynwyd, Pa.
1963. Giambalvo, Giacchino P., 818 N. 63rd St. (19151)
1965. Gianakon, Harry G., 111 N. 49th St. (19139)
1934. *Gibbon, John H., Jr., 2103 N. Providence Rd., Media, Pa. (19063)
1939. *Gibson, Glen Gregory, 2031 Locust St. (3)
1944. Gifford, Edwards S., Jr., 1913 Spruce St. (3)
1956. Gilbert, Philip D., Cooper Hospital, Camden, N.J.
1967. Gilbert, Robert P., 1025 Walnut St. (19107)
1947. Giletto, Basil J., 2020 Locust St. (3)
1955. Gill, Robert J., 801 Spruce St. (7)
1952. Gilpin, Sherman F., Jr., 1023 Beury Building, 3701 N. Broad St. (40)
1965. Ginley, Thomas H., Jr., Presidential Apts. (19131)
1949. Ginsburg, Isadore W., 3401 N. Broad St. (40)
1958. Girsh, Leonard S., Benjamin Fox Pavilion, Jenkintown, Pa. (19046)
1954. Gislason, Gerhard J., 245 N. Broad St. (7)
1967. Glauser, Stanley C., 630 Richards Rd., Wayne, Pa. (19087)
1964. Gloeckner, M. Louise C., 110 E. Fourth Ave., Conshohocken, Pa.
1956. Goldberg, Harry, 7913 Rolling Green Rd., Cheltenham, Pa.
1970. Goldberg, Richard E., 1333 Buck Road, Feasterville, Pa. (19048)
1965. Goldburgh, Warren P., 1932 Spruce St. (19103)
1969. Goldman, Leonard I., Temple Univ. Hosp. (19140)
1965. Goodman, David H., 6816 Castor Ave. (19149)
1956. Goracci, Armando F., Medical Arts Bldg., Woodbury, N.J. (08096)
1968. Gordon, Jacob S., 5119 N. Broad St. (19141)
1968. Gordon, Kenneth H., Jr., 1250 Upper Gulph Rd., Radnor, Pa. (19087)
1937. Gordon, William, 5345 Spruce St. (39)

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1968. Gordy, Philip D., 1025 Walnut St. (19107)
1964. Gottlieb, Harry, 5603 Greene St. (19144)
1964. Gottlieb, Philip M., 818 Medical Arts Bldg., 16th & Walnut Sts. (19102)
1965. Gould, R. John, 441 Lombardy Rd., Drexel Hill, Pa. (19026)
1967. Gould, Robert A., 701 N. Pennsylvania Ave., Morrisville, Pa. (19067)
1956. *Gouley, Benjamin, 1201 W. Olney Ave. (19141)
1966. Gowen, George F., Misericordia Hospital (19143)
1957. Grahn, Henry Victor, 5132 Chester Ave. (43)
1966. Grant, B. David, 918 County Line Road, Bryn Mawr, Pa. (19010)
1965. Grassi, Michael O. A., 2038 Locust St. (19103)
1965. Greenbaum, Charles H., 6810 Castor Ave. (19149)
1940. Greene, Lloyd B., 326 S. 19 St. (19103)
1952. *Greening, Roy R., Harbor View Med. Center, 325 Ninth Ave, Seattle, Wash. (98104)
1958. *Greenspan, Benjamin, 1319 W. Tabor Rd. (41)
1955. Greenstein, Raphael H., 1710 Pine St. (3)
1941. *Groff, Robert A., Suite 2306–08 Medical Tower, 255 S. 17th St. (19103)
1952. *Grotzinger, Paul J., 2121 Valley Rd., Huntingdon Valley, Pa.
1952. *Grove, D. Dwight, 5025 N. Marvine St. (19141)
1966. Guthrie, Marshall B., 1500 Spring Garden St. (19101)
1945. György, Paul, Philadelphia General Hospital (19104)
1969. Haase, Gunther R., 3401 N. Broad St. (19140)
1935. Hadden, Samuel B., 135 S. 19th St. (19103)
1945. Hahn, George A., 255 S. 17th St. (3)
1967. Haines, Keith E., 300 S. Broadway, Camden, N.J. (08103)
1964. Hall, John H., 3401 N. Broad St. (19140)
1955. Hallahan, John D., 104 W. Front St., Media, Pa.
1951. Hallett, Joseph W., 136 S. 16th St. (2)
1961. Hammett, Van Buren O., 249 N. Broad St. (19107)
1967. Hammond, Jonathan A., 433 Bellevue Ave., Trenton, N.J. (08618)
1954. Hand, B. Marvin, 1801 Pennsylvania Blvd. (3)
1938. Hand, John G. 1724 Pine St. (3)
1964. Hanes, Robert B., 501 Long Lane, Upper Darby, Pa.
1947. Hanes, William James, 218 E. Beechtree Lane, Wayne, Pa.
1963. Hanhausen, Edward H., 418 E. Lancaster Ave., Wayne, Pa. (19087)
1950. Hansen, A. Victor, 910 Centennial Rd., Penn Valley, Narberth, Pa. (19072)
1956. Harbert, Frederick, Jefferson Hospital (7)
1951. Harkins, Herbert P., Suite 122 Lankenau Hosp. Med. Bldg. (19151)
1966. Harner, Richard N., Graduate Hospital (19146)
1963. Harris, Charles, 5301 Old York Road (41)
1962. Harris, James R., 3222 W. Penn St. (19129)
1959. Harris, James S. C., Medical Office Bldg., 666 E. Penn St. (19144)
1948. Harris, T. N., 5112 Woodbine Ave. (31)
1929. Harrison, Francis G., 1900 Spruce St. (3)
1926. Hartmann, Fred I., 1914 Pine St. (3)
1961. Harvie, Fred H., 3400 Spruce St. (4)
1935. *Haskell, Benjamin F., 1427 Spruce St. (2)
1968. Haskin, Marvin E., 2461 N. 54th St. (19131)
1958. Haupt, George J.,Lankenau Medical Bldg. (51)
1960. Hausman, David H., Pennsylvania Hospital, 8th & Spruce Sts. (7)
1947. Havens, Walter Paul, Jr., 139 Cheould Lane, Haverford, Pa.
1947. *Hawthorne, Herbert R., 3625 Darby Rd., Bryn Mawr, Pa. (19010)
1963. Hayes, Merrill B., 710 Madison St. Chester, Pa.
1952. Hayllar, Benjamin L., Bryn Mawr Med. Bldg., Bryn Mawr, Pa. (19010)
1961. Hayward, Malcolm L., 111 N. 49th St. (39)
1961. Heath, Frederick K., Merck Sharp and Dohme, West Point, Pa.
1957. Hedges, Thomas R., Jr., 330 South 9th St. (7)
1961. Heggestad, Gilman E., Conestoga Medical Bldg., Bryn Mawr, Pa.

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1965. Heil, Charles G., Jr., The Benson East, Jenkintown, Pa. (19046)
1965. Heine, William I., 5579 N. Park Ave. (19141)
1967. Helwig, John, Jr., Germantown Hosp. (19144)
1944. Herbut, Peter A., Dept. of Pathology, Jefferson Medical College Hospital (7)
1954. Herron, James R., 1486 Haddon Ave., Camden 3, N.J.
1963. Hesch, Joseph A., Misericordia Hospital (19143)
1949. Heyl, W. Meredith, Medical Office Bldg., 666 E. Penn St. (19144)
1961. Hilferty, Daniel J., Jr., Sutton Terrace Apts., 50 Belmont Ave., Bala-Cynwyd, Pa.
1952. Hinkson, DeHaven, 329 N. 40th St. (4)
1924. Hirst, John C., 2d., 2016 Rittenhouse Sq. (19103)
1943. Hitschler, William J., Bethlehem Pike & Summit (18)
1944. Hneleski, Ignatius S., 802 S. 48th St. (43)
1943. Hockaday, Agnes, 316 Shadeland Ave., Drexel Hill, Pa.
1939. •Hodes, Philip J., Dept. of Radiology, Jefferson Medical College (7)
1947. •Hodges, John H., 1025 Walnut St. (7)
1963. Hoffman, Carl J., 2901 Cottman Ave. (19149)
1948. Hoffman, George L., Jr., 133 S. 36th St. (4)
1965. Holfelner, Edward D., Chestnut St. & Ashby Road, Upper Darby, Pa.
1964. Hollander, George, 3500 Vista St. (36)
1949. Hollander, Joseph L., 36th & Spruce Sts. (4)
1969. Hollender, Marc H., Univ. of Pa. Hosp. (19104)
1964. Holling, Herbert E., 3400 Spruce St. (19104)
1951. Hollis, Charles B., The Cambridge Apts. (19144)
1952. Holloway, Edward E., 1736 Pine St. (3)
1966. Holly, Roy G., 1025 Walnut St. (19107)
1966. Holter, F. Robert, 1911 Spruce St. (19103)
1949. Hopkins, Henry U., Garden Court Plaza, 47th & Pine Sts. (43)
1953. Horan, Charles A., 734 N. 63rd St. (19151)
1946. Horan, Gerald W., Marple-Newton Medical Bldg., Newton Square, Pa.
1947. •Horwitz, Orville, Hospital of the University of Pennsylvania (4)
1950. Houlihan, Carl T., 207 McClatchy Bldg., Upper Darby, Pa.
1944. Housel, Edmund L., 255 S. 17th St. (3)
1958. •Howard, John M., 230 N. Broad St. (2)
1946. Howson, John Yeatts, 115 Bloomingdale Ave., Wayne, Pa. (19087)
1951. Hubbard, John P., 3930 Chestnut St. (19104)
1947. •Huber, John Franklin, Temple University School of Medicine (40)
1937. Hughes, Joseph, 111 N. 49th St. (39)
1939. Hughes, P. Boland, 419 Hillbrook Rd., Bryn Mawr, Pa.
1968. Hume, H. Alan, 133 S. 36th St. (19104)
1968. Hummeler, Klaus, Children's Hosp. (19146)
1951. Hundley, J. Warren, 3818 Chestnut St. (4)
1954. Hunsicker, William C., Jr., 255 S. 17th St. (3)
1946. Hunt, William T., Jr., Suite 945, 1617 J. F. Kennedy Blvd. (19103)
1921. Hunter, Robert John, 928 N. 63rd St. (19151)
1967. Huth, Edward J., American College of Physicians, 4200 Pine St. (19104)
1952. Hyman, Harold L., 3401 N. Broad St. (40)
1950. •Imbriglia, Joseph E., 934 Cedar Grove, Wynnewood, Pa. (19096)
1949. Ingraham, Norman R., Jr., Stenton and Whitemarsh Aves. (18)
1957. Isaacson, Howard, Haverford Ave. & Drexel Rd. (19151)
1951. •Isard, Harold J., Albert Einstein Medical Center, York & Tabor Rds. (19141)
1951. •Israel, Harold L., 302 S. 19th St. (19103)
1947. •Israel, S. Leon, 807 Spruce St. (7)
1967. Jacoby, Jay J., 1025 Walnut St. (19107)
1967. Jaeger, Edward A., Media Clinic, Media, Pa. (19063)
1965. Jenkins, B. Wheeler, 1526 E. Upsal St. (19150)
1943. •Johnson, Julian, 3400 Spruce St. (4)
1959. Johnson, Robert G., 1015 Walnut St. (7)

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1938. Johnson, Thomas A., 135 S. 18th St. (3)
1963. Jones, Robert E., 111 N. 49th St. (39)
1967. Jones, W. Mead, Somerset House, Fort Washington, Pa. (19034)
1963. Joseph, Rosaline R., 3401 N. Broad St. (40)
1966. *Joyce, John J., III, Medical Office Bldg., 666 E Penn St. (19144)
1961. Joyner, Claude R., Jr., 3400 Spruce St. (4)
1957. Kacher, Leon, 2037 Pine St. (3)
1969. Kain, Thomas M., Jr., Cooper Parkway W., Suite 301 N. Park Dr., Pennsauken, N.J. (08109)
1948. Kaplan, Louis, 2040 Pine St. (3)
1964. *Kaplan, S. Richard, 419 S. 19th St. (19146)
1938. Kasper, Kelvin A., 1111 Hagys Ford Rd., Penn Valley, Narberth, Pa. (19072)
1966. Kassay, Dezso, 1 Summit St. (19118)
1958. Kasser, Max D., 101 S. 20th St. (19103)
1945. Katz, G. Henry, 111 N. 49th St. (39)
1941. Kauffman, M. Luther, Medical Arts Bldg., Jenkintown, Pa.
1947. Kay, Calvin Frederick, Univ. of Pa. Hospital (4)
1954. Kaye, Robert, Children's Hospital, 1740 Bainbridge St. (46)
1968. Keates, Edwin U., 2385 Cheltenham Ave. (19150)
1947. Keefer, George Pfahler, 136 S. 16th St. (2)
1970. Keeler, Louis L., Jr., 255 S. 17th St. (19103)
1963. Keeley, Francis X., Professional Bldg., 1533 Haddon Ave., Camden, N.J.
1966. Keeney, Arthur H., Wills Eye Hospital (19130)
1949. Keiserman, Joseph, 1900 John F. Kennedy Blvd. (19103)
1965. Kellow, William F. T., 1025 Walnut St. (19107)
1932. *Kelly, Herbert T., 1830 Delancy Place (19103)
1961. Kelly, William E., 111 N. 49th St. (39)
1941. Kennedy, Patrick J., 32 Hampden Rd., Upper Darby, Pa.
1948. Kern, Franklin Moore, 903 Nicholson Rd., Wynnewood, Pa.
1921. *Kern, Richard A., Temple University Hospital, 3401 N. Broad St. (40)
1935. Keyes, Baldwin L., 2031 Locust St. (3)
1936. King, Orville C., 330 S. 9th St. (7)
1970. King, Warren E., Jr., 230 N. Broad St. (19102)
1952. Kirschner, Jacob J., 1930 Chestnut St. (3)
1969. Kissick, William L., Dept. Community Med., 36th & Hamilton Walk (19104)
1960. Kitchell, J. Roderick, Abington Hospital Medical Office Bldg., 1245 Highland Ave., Abington, Pa. (19001)
1920. Klein, Thomas, 191 Apts. Bala-Cynwyd, Pa. (19004)
1954. Kligman, Albert M., 36th & Spruce Sts. (4)
1934. Kline, Oram R., 896 Lake Ave., Woodbury Hts., N.J. (08097)
1959. Kline, Oram R., Jr., 406 Cooper St., Camden, N.J. (08102)
1948. Klingensmith, Paul O., Med. Science Bldg., Lankenau Hosp. (19151)
1958. Klingensmith, Walter C., 3600 Spruce St. (4)
1956. Klinghoffer, June F., Woman's Medical College (29)
1969. Klinghoffer, Leonard, 255 S. 17th St. (19103)
1960. Knopf, Carl L., 5312 Spruce St. (39)
1960. Knorr, John K., 3rd Lankenau Medical Bldg. (19151)
1959. Knowles, Harry J., 722 Righters Mill Rd., Narberth, Pa. (19072)
1969. Koblenzer, Peter J., 303 Chester Ave., Moorestown, N.J. (08057)
1945. Kobler, H. B., School Lane House, 5450 Wissahickon Ave. (19144)
1959. Koiwai, Eichi Karl, 235 N. 15th St. (2)
1957. Koltes, John A., 530 Spring Lane (19128)
1936. Konzelmann, Frank Williamson, 27 W. Wilmont Ave., Somers Point, N.J. (08244)
1949. *Koop, C. Everett, 1740 Bainbridge St. (46)
1964. Koppel, Max M., 7310 Castor Ave. (19115)
1952. Kornblueh, Igho H., Welsh Rd. & Verree Rd. (15)
1958. Kovach, Coleman W., 1830 Rittenhouse Sq. (19103)

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1941. Krall, J. Thomas, 85 N. Landsdowne Ave., Landsdowne, Pa.
1954. *Krasnoff, Sidney O., Tabor Medical Bldg., York & Tabor Roads (41)
1952. Kravitz, Charles H., 626 Ashbourne Rd., Elkins Park, Pa.
1964. Kremens, Victor, 5601 N. Broad St. (19141)
1949. Kressler, Robert J., 330 S. 9th St. (7)
1968. Krishna, Narendra, 584 E. Chestnut St., Coatesville, Pa. (19320)
1947. Kuhlenbeck, Hartwig, Woman's Medical College, 330 Henry Ave. (29)
1964. Kustrup, John F., 1418 S. Broad St., Trenton, N.J.
1967. Kyle, George C., 3400 Spruce St. (19104)
1947. La Boccetta, Alfred Charles, Philadelphia General Hospital, 34th St. & Curie Ave. (4)
1952. *Lachman, John W., 3401 N. Broad St. (40)
1946. Lampe, William T., 4207 Tyson Ave. (35)
1962. Landis, Harry P., Jr., 901 Columbia Ave., Palmyra, N.J.
1952. *Lang, Warren R., Suite 1624, 1919 Chestnut St. (19103)
1966. Langfitt, Thomas W., 3600 Spruce St. (19104)
1941. Langner, Paul H., Jr., 1208 Edmonds Ave., Drexel Hill, Pa.
1945. Lansbury, John, 3414 Brae Bourn Drive, Huntingdon Valley, Pa. (19006)
1926. Laws, George M., 1907 Spruce St. (3)
1967. Lear, Walter J., Deputy Health Commissioner, 540 Municipal Service Bldg. (19107)
1950. Learner, Norman, 370 N. Broad St. (40)
1920. Leavitt, Frederic Headley, 1527 Pine St. (2)
1941. Leberman, Paul R., Hospital of the University of Pennsylvania (4)
1957. Lee, Charles Trumbull, Jr., 33 E. Chestnut Hill Ave. (18)
1952. *Lehman, J. Stauffer, 230 N. Broad St. (2)
1961. Leibfried, Jane M., 5501 Green St. (44)
1951. Leivy, Frank E., Wm. Penn House, 1919 Chestnut St. (19103)
1944. Lell, William A., 333 S. 18th St. (3)
1935. Lemmon, William T., 133 S. 36th St. (4)
1969. Lentz, John W., 417 Lankenau Med. Bldg., Lancaster & City Line Ave. (19151)
1965. Leopold, Howard C., 4623 York Rd. (19104)
1955. Leopold, Robert L., Univ. of Pa. Hosp. (19104)
1967. Leslie, W. Munroe, 8800 Germantown Ave. (19118)
1969. Leto, Francesco, 1419 S. Broad St. (19147)
1944. Lettiere, Anthony J., 425 E. State St., Trenton, N.J.
1965. Levenson, Carl, 619 Elkins Ave. (19117)
1933. Levering, J. Walter, Bethayres Valley F-7, Huntingdon Valley, Pa. (19006)
1959. Levick, Leonard J., 1335 Tabor Rd. (19141)
1958. Levine, Samuel, 7100 N. 19th St. (26)
1964. Levit, Edithe J., 3930 Chestnut St. (19104)
1964. Levit, Samuel M., 1910 Spruce St. (19103)
1958. LeWinn, Edward B., Upper Black Eddy, Pa. (18972)
1960. *Lewis, George C., Jr., 230 N. Broad St. (2)
1967. Lewis, Stuart H., 2050 W. Chester Ave., Havertown, Pa. (19083)
1964. Leymaster, Glen R., Woman's Medical College, 330 Henry Ave. (19129)
1967. Liachowitz, Claire H., Graduate Hospital (19146)
1955. Lieberman, George E., 1900 Spruce St. (19103)
1968. Lief, Harold I., 2d Floor, 4025 Chestnut St. (19104)
1969. Lightfoot, William P., Temple Univ. Hosp. (19140)
1956. Likoff, William, 249 N. Broad St. (2)
1962. Lilley, George W., Scott Paper Co. (19113)
1940. Limberger, William A., 301 S. Church St., West Chester, Pa.
1948. Lin, David Y. P., 2222 S. Broad St. (45)
1966. Lin, Paul M., The Benson, Suite 123, Jenkintown, Pa. (19046)
1938. Lindauer, M. August, 133 S. 36th St. (4)
1956. Lindquist, John N., 422 Sabine Ave., Wynnewood, Pa.
1936. Lintgen, Charles, 1930 Chestnut St. (3)
1958. Lipshutz, Arthur, 7974 Fayette St. (19)

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1959. *Lipshutz, Herbert, 829 Spruce St. (19107)
1953. Lipsius, Edward I., 319 S. 16th St. (3)
1959. Little, Ralph B., 111 N. 49th St. (39)
1944. Livesey, Mary M., 8835 Germantown Ave. (19118)
1936. Llewellyn, Thomas H., 910 N. 63rd St. (19151)
1907. Lodholz, Edward, The Fairfax, 43rd & Locust Sts. (4)
1933. Long, Esmond R., Society Hill Towers, 23B, 220 Locust St. (19106)
1951. Long, Joseph P., 1930 Chestnut St. (3)
1935. Long, William L., 2038 Locust St. (3)
1931. Longaker, Edwin P., 41 E. Montgomery Ave., Ardmore, Pa.
1951. Lorber, Stanley H., Temple Univ. Hospital, 3401 N. Broad St. (19140)
1961. Lorry, Ralph W., 1247 E. Luzerne St. (24)
1960. Lovett, B. Frank, North Park Drive & Airport Highway, Pennsauken, N.J. (08109)
1963. Lubowitz, Richard M., Benson East Apts., Jenkintown, Pa.
1936. Lucchesi, Pascal Francis, 601 E. Gorgas Lane (19)
1967. Luce, Cyril M., 37 S. 20th St. (19103)
1939. Luongo, Romeo A., 2054 Locust St. (3)
1951. Luscombe, Herbert A., 136 S. 16th St. (2)
1952. Lutman, Frank C., 33 E. Chestnut Hill Ave. (19118)
1919. Lynch, Frank B., Jr., 809 Cambridge Apts., School House Lane (44)
1950. Lynch, J. Edward, Suite 305, Wynnewood House, 300 E. Lancaster Ave., Wynnewood, Pa.
1953. Lyons, John W., 255 S. 17th St. (3)
1965. McCabe, James L., Jr., Barclay Bldg., One Belmont Ave., Bala-Cynwyd, Pa.
1932. *McCahey, James F., Wesley Manor, Jacksonville, Fla. (32223)
1958. *McClenahan, John L., 39 East Chestnut Hill Ave. (18)
1935. McClenahan, William U., 33 East Chestnut Hill Ave., Chestnut Hill (18)
1957. McConnell, Edward L., Jr., 2342 S. Broad St. (45)
1934. McCouch, Grayson P., R.D. #4, W. Chester, Pa. (19380)
1962. McCracken, Stewart, 3701 N. Broad St. (40)
1938. McCrea, Lowrain E., 1930 Chestnut St. (3)
1958. McCune, Wallace G., 5555 Wissahickon Ave. (44)
1942. McDonald, P. Robb, Lankenau Medical Bldg. (19151)
1953. McDonnell, William V., West Jersey Hospital, Camden 4, N. J.
1952. McElroy, Robert C., 133 S. 36th St. (4)
1970. McFadden, John F., 924 Bristol Pike, Andalusia, Pa. (19020)
1950. McFadden, William M., 1187 E. Washington Lane (19138)
1949. McGavic, John S., 1104 Montgomery Ave., Rosemont, Pa. (19010)
1970. McGeary, Joseph D., Fidelity Mutual Life Ins. Co., Parkway at Fairmount (19130)
1945. McGee, Lemuel Clyde, Box 3879, Greenville, Wilmington, Del. (19807)
1954. McGehee, Edward H., 33 E. Chestnut Hill Ave. (18)
1952. McGlade, Thomas H., 514 Cooper St., Camden, N.J. (08102)
1966. McGowan, Larry, 7625 Mary Cassatt Dr., Potomac, Md. (20854)
1966. McGrath, Raymond J., 1720 Spruce St. (3)
1959. McKeown, John J., Jr., 255 S. 17th St. (19103)
1933. McLaughlin, James S., 330 S. 9th St. (19107)
1966. McMichael, Harrison, 524 Meadowbrook Circle, Wayne, Pa. (19087)
1924. McMillan, Thomas M., 2451 Mt. Island Drive, North, Mobile, Ala. (36606)
1924. McPhedran, F. Maurice, Cope House, Awbury, Arboretum (19138)
1955. McStravog, Lawrence J., 6910 Market St., Upper Darby, Pa.
1954. MacFayden, Bruce V., 1801 J. F. Kennedy Blvd. (19103)
1964. Macht, Elmer L., Jr., York & Keith Roads, Abington, Pa.
1949. MacNeal, Perry Scott, Suite 308, Franklin Medical Bldg., 829 Spruce St. (19107)
1951. MacNeish, W. J., 821 Great Springs Rd., Rosemont, Pa. (19010)
1955. Macy, Dorothy, 5616 N. 45 St., Phoenix, Ariz. (85018)
1957. Madow, Leo, Woman's Medical College, 3300 Henry Ave. (19129)
1966. Maguire, Henry C., Jr., Hahnemann Medical College & Hosp. (19102)

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1952. Mahoney, J. Francis, 250 S. 18th St. (3)
1969. Mahood, William H., 1245 Highland Ave., Abington, Pa. (19001)
1970. Maier, Willis P., 3401 N. Broad St. (19140)
1969. Mallin, Aaron W., Rittenhouse Med. Center, 1900 Spruce St. (19103)
1965. Mancall, Elliott L., 230 N. Broad St. (19102)
1959. Mandel, Martin M., Benson Manor, Township Line & Washington Lane, Jenkintown, Pa.
1968. Mandell, Morton S., 1319 W. Tabor Rd. (19141)
1966. Manges, W. Bosley, 255 S. 17th St. (19103)
1954. Manges, Willis E., Methodist Hospital, Broad & Wolf Sts. (48)
1949. Manlove, Francis R., 500 Williamson Rd., Gladwyne, Pa.
1960. Manning, Valentine R., 3336 Aldine St. (36)
1956. Manstein, George, 1351 Tabor Rd. (41)
1969. Mansure, Frank T., 4601 Market St. (19139)
1969. Mansure, Patricia R., The Parkway at Fairmont Ave. (19101)
1953. Marbach, A. Herbert, 1307 Tabor Rd. (41)
1948. *Marden, Philip Ayer, University Hospital, 36th & Spruce Sts. (4)
1958. Marino, Daniel J., 422 East 22nd St., Chester, Pa.
1966. Markind, Simon, Albert Einstein Med. Center, York & Tabor Rds. (19141)
1969. Marks, Gerald, 255 S. 17th St. (19103)
1950. Marshall, E. Wayne, 907 Pine St. (19107)
1968. Martin, John H., 3401 N. Broad St. (19140)
1951. *Martin, William L., 402 Holly Lane, Wynnewood, Pa. (19096)
1953. Marx, Halvey E., 76 Brennan Drive, Bryn Mawr, Pa.
1970. Mason, Daniel, 1500 Vine St. (19102)
1966. Mastroianni, Luigi, Jr., University Hospital (19104)
1968. Mausner, Judith S., Woman's Medical College (19129)
1951. Mayock, Robert L., 3600 Spruce St. (4)
1958. Mays, Ralph Whiteman, 154 W. Tulpehocken St. (44)
1961. Mechanick, Philip, Univ. of Pa. Hosp. (19104)
1952. Mecray, Paul, Jr., Suite 303, Cooper Parkway W., N. Park Drive & Airport Highway, Pennsauken, N.J. (08109)
1951. Medinger, Frederick G., 1941 Woodland Road, Abington, Pa.
1959. Medoff, Joseph, 5400 Wynnefield Ave. (31)
1941. Mendell, Theodore H., 2023 Spruce St. (3)
1943. Meranze, David R., 229 W. Upsal St. (19119)
1954. Mertens-Roesler, Elizabeth, 2910 Woodpipe Lane (29)
1955. Mervine, Thomas B., Medical Arts Bldg., Woodbury, N.J. (08096)
1959. Metzger, Harry N., 1815 Pine St. (3)
1964. Meyer, Edward C., Fitzgerald Mercy Hospital, Darby, Pa. (19023)
1964. Michaile, Kenneth I., 1930 Chestnut St. (19103)
1956. Miller, Bernard Joseph, 6013 Greene St. (44)
1939. Miller, Malcolm W., Lankenau Medical Bldg. (19151)
1939. *Miller, Merle M., 6013 Greene St. (44)
1921. *Miller, T. Grier, 133 S. 36th St. (4)
1955. Miller, William H., Fitzgerald Mercy Hospital, Darby, Pa.
1952. Minehart, John R., 615 E. Allegheny Ave. (19134)
1952. *Mintz, S. S., 1930 Chestnut St. (3)
1963. Mishkin, Mark M., Univ. of Pa. Hospital (19104)
1952. Mitchell, Robert McNair, 807 Spruce St. (7)
1959. *Mitterling, Robert C., Chestnut St. & Glendale Rd., Upper Darby, Pa.
1967. Monheit, Richard S., Albert Einstein Medical Center, N.D. (19141)
1936. Montgomery, Hugh, 932 Merion Sq. Rd., Gladwyne, Pa. (19035)
1936. *Montgomery, John B., 1930 Chestnut St. (3)
1932. Montgomery, Thaddeus L., 2031 Locust St. (3)
1935. *Moore, John Royal, 3701 N. Broad St. (19140)
1947. Moore, Matthew Thibaud, 1813 Delancey Pl. (3)

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1958. Moore, Samuel R., Jr., 1600 Arch St. (1)
1958. Moran, Alma D., 3665 Midvale Ave. (29)
1936. Morgan, David R., 218 W. Mt. Carmel Ave., Glenside, Pa.
1944. Morris, Harold H., St. Clair Drive, St. Simons Island, Georgia (31522)
1945. Morris, I. Paul, 1939 Cheltenham Ave. (17)
1969. Morris, Robert G., Jr., 5000 Woodland Ave. (19143)
1967. Moss, N. Henry, N. Medical Bldg., 1335–49 W. Tabor Rd. (19141)
1964. Most, William, 994 Haddon Ave., Collingswood 7, N. J.
1959. Moyer, John H., 230 N. Broad St. (2)
1941. *Mucklé, Craig Wright, 8016 Seminole Ave. (19118)
1929. Mudd, Stuart, V. A. Hosp. (19104)
1960. Mulberger, Robert D., 1930 Chestnut St. (3)
1965. Muller, Otto, Fitzgerald-Mercy Hospital, Darby, Pa.
1968. Murphey, Henry S., Henry R. Landis Hosp., Girard and Corinthiam Aves. (19130)
1930. Murphy, Douglas P., 601 S. Bowman Ave., Merion Station, Pa.
1953. Murphy, Edward J., Byrn Mawr Medical Bldg., Bryn Mawr, Pa.
1958. Murphy, John J., 3600 Spruce St. (4)
1959. Murray, Edwin N., 130 N. Broadway, Camden, N. J.
1955. Murtagh, Frederick, Jr. 3401 N. Broad St. (40)
1951. Myers, David, 3701 N. Broad St. (40)
1969. Myers, Eugene N., 3701 N. Broad St. (19140)
1965. Myers, Richard N., 307 Lankenau Medical Bldg. (19151)
1955. Nachod, Grace R., 5501 Greene St. (44)
1968. Naden, Randall S., Jr., 130 N. Broadway, Camden, N.J. (08102)
1968. Nagel, Frank O., Jr., 37 S. 20th St. (19103)
1945. Naide, Meyer, 2034 Spruce St. (3)
1951. Naidoff, David, 3500 Tudor St. (36)
1966. Nance, Maurice R., 1500 Spring Garden St. (19101)
1950. Nardone, Anthony A., 912 49th St. (43)
1959. Neal, Hunter S., 460 Langenau Medical Bldg., (19151)
1963. Nelson, Arthur D., 3400 N. Broad St. (40)
1943. Nelson, Waldo E., 615 Moreno Rd., Narbeth, Pa.
1955. *Nemir, Paul, Jr., 19th & Lombard Sts. (19146)
1970. Nichols, Henry T., 230 N. Broad St. (19102)
1935. *Nicholson, Jesse Thompson, 1740 Bainbridge St. (19146)
1960. Nicholson, John W., III, 115 Chestnut St., Moorestown, N. J.
1947. Noone, Ernest L., R. D. #1, Elverson, Chester Co., Pa. (19520)
1954. Norris, Charles M., 3401 N. Broad St. (40)
1938. *Norris, Robert F., 430 Colebrook Lane, Bryn Mawr, Pa. (19010)
1957. Oakey, Richard S., Jr., Suite 218, Lankenau Med. Bldg. (19151)
1963. O'Hara, A. Edward, Jefferson Medical College Hospital (19107)
1954. Olsen, Axel K., The Windsor Apts. (19103)
1949. O'Neill, James F., 1425 Woodland Rd., Rydal, Pa. (19046)
1947. Ornsteen, A. M., 2007 Delancey Pl. (3)
1958. O'Sullivan, Ward D., Mercy Cath. Med. Center, Fitzgerald Mercy Hosp., Darby, Pa. (19023)
1955. Ottenberg, Donald J., Eagleville Hosp., Eagleville, Pa. (19408)
1968. Ovedoff, David L., 1500 Spring Garden St. (19101)
1961. Owen, Barbara J., Bryn Mawr Hospital, Bryn Mawr, Pa. (19010)
1949. *Padis, Nicholas, Lankenau Medical Bldg. (51)
1968. Padula, Richard T., 1025 Walnut St. (19107)
1968. Pareira, Morton D., Albert Einstein Med. Center (N), York & Tabor Rds. (19141)
1963. Parish, Benjamin D., Jr., 1261 Bethlehem Pike, Flourtown, Pa. (19031)
1945. Park, Felix Roman, 1980 Utica Sq., Tulsa, Okla. (74114)
1948. Parkhurst, Leonard Woods, 330 S. 9th St. (7)
1952. Paxson, Newlin F., 245 N. Broad St. (7)
1932. Payne, Franklin L., 240 Beech Hill Road, Wynnewood, Pa. (19096)

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1965. Pearlstine, Beatrice, 7404 Mountain Ave. (19126)
1954. Pearce, Alexander E., 1420 Race St. (2)
1958. Pearce, Rowan C., Jr., 30 Washington Ave., E-Entry, Haddonfield, N.J. (08033)
1954. Pearson, Manuel M., 111 N. 49th St. (39)
1967. Pechin, Sergius P., 1910 Garrett Rd., Lansdowne, Pa. (19050)
1960. Peltz, William L., 111 49th St. (39)
1930. *Pendergrass, Eugene P., Radiology Dept., University Hospital, 3400 Spruce St. (19104)
1953. Penneys, Raymond, University of Pennsylvania Hospital (4)
1964. Perrin, George M., First Floor Mills Bldg., Philadelphia General Hospital, 34th & Curie Ave. (19104)
1940. Pessel, Johannes F., 224 West State St., Trenton, N.J. (08608)
1952. Peters, Michael, Fairhill Rd., Hatfield, Pa. (19440)
1968. Peterson, Arthur L., 111 N. 49th St. (19139)
1961. Peterson, Lysle H., Bockus Research Institute, 19th & Lombard Sts. (19146)
1940. Pettit, Horace, 601 Suburban Sq. Bldg., Ardmore, Pa. (19003)
1949. *Pettit, Mary DeWitt, 3343 W. Penn St. (29)
1946. Pfeiffer, Mildred C. J., 358 Valley Rd., Merion, Pa. (19066)
1935. Phillips, Arthur W., Emlenton, Pa. (16373)
1961. Phillips, William A., Eastern Pennsylvania Psychiatric Institute (19129)
1948. Pierson, Daniel B., Jr., 740 Beacon Lane, Merion, Pa. (19066)
1964. Pierucci, Louis, Jr., 1025 Walnut St. (19107)
1961. Pike, Anne H., 5603 Greene St. (19144)
1957. *Pilling, George Platt, IV. 2600 N. Lawrence St. (19133)
1933. *Pillsbury, Donald M., Duhring Labs., University Hospital (19104)
1957. Platt, Ruth M., 441 Lyceum Ave. (28)
1951. Poinsard, Paul J., 2123 Delancey Place (19103)
1968. Polin, Edward B., 7810 Old York Rd. (19117)
1937. Polk, David Stewart, Rosemont, Pa.
1967. Polk, Lewis D., 500 S. Broad St. (19146)
1956. *Pontarelli, Domenic J., 1037 Great Springs Rd., Rosemont, Pa.
1953. Porreca, George A., 1843 S. Broad St. (19148)
1932. Porter, Roland De Lance, Abington Medical Bldg., Abington, Pa.
1951. Pote, Harry H., 103 E. Ridley Ave., Ridley Park, Pa.
1958. Potter, H. Phelps, Jr., Paoli Memorial Hosp., Lincoln Hwy., Paoli, Pa. (19301)
1951. *Pressman, Robert S., 170 W. Olney Ave. (19120)
1965. Price, Joseph J., 36 Copley Road, Upper Darby, Pa.
1947. Prickett, John A., Warrington, Bucks County, Pa.
1954. Prince, Leon N., 2025 Spruce St. (3)
1931. Pryor, Charles Allen, 734 S. Latch's Lane, Merion Station, Pa. (19066)
1952. Pugh, James E., 614 Church Lane, Yeadon, Pa.
1968. Qualls, Donald M., Lankenau Medical Bldg. (19151)
1943. *Radbill, Samuel X., 7043 Elmwood Ave. (42)
1953. Radbill, Sidney G., Wm. Penn House, 1919 Chestnut St. (19103)
1966. Raffensperger, Bruce W., 8811 Germantown Ave. (19118)
1953. Raffensperger, Edward C., 260 St. James Place (6)
1945. Rakoff, Abraham Edward, Franklin Medical Bldg., 829 Spruce St. (19107)
1953. Ralston, Edgar L., 3400 Spruce St. (4)
1931. Ramsey, Frank M., Lakeside Dr., Rt. 1, Mayfield, N.Y. (12117)
1968. Randall, Peter, Univ. of Pa. Hosp. (19104)
1953. Ranieri, Tito A., 2320 S. Broad St. (45)
1941. Rankin, Charles A., Ludlow & Heather Rd., Upper Darby, Pa.
1968. Rashkind, William L., Children's Hosp. (19146)
1951. *Rathmell, Thomas K., 446 Bellevue Ave., Trenton, N. J.
1926. *Ravdin, I. S., Univ. of Pa. Hospital (4)
1956. Ravdin, Robert Glenn, 3400 Spruce St. (4)
1959. Raventos, Antolin, 3400 Spruce St. (4)
1969. Rawnsley, Howard M., 3400 Spruce St. (19104)

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1962. Raymond, F. Douglas, Jr., Bryn Mawr Medical Bldg., Bryn Mawr, Pa.
1964. Raymond, Samuel, 711 Maloney Bldg., University Hospital, 36th & Spruce Sts. (19104)
1961. Read, William T., Jr., 110 Munn Lane, Cherry Hill, N. J. (08034)
1954. *Reagan, Lindley B., 166 Madison Ave., Mt. Holly, N. J. (08060)
1965. Reddy, John B., 1025 Walnut St. (19107)
1960. Reed, Theodore P., Lankenau Medical Bldg. (19151)
1928. Reese, Warren S., 2118 Locust St. (3)
1964. Reinhard, John J., Jr., 335 Woodstown Road, Salem, N. J.
1956. Reisnitein, William A., 16 Bancoyd Rd., Merion Station, Pa.
1963. Reisinger, Paul B., 855 Berkeley Ave., Trenton, N. J.
1969. Relman, Arnold S., 3600 Spruce St. (19104)
1951. Rentschler, Laurence B., 5800 Ridge Ave. (28)
1968. Rex, Eugene B., Lankenau Medical Bldg. (19151)
1945. *Rhoads, Jonathan E., Univ. of Pa. Hospital (4)
1946. Rhoads, Rebecca M. P., Alden Park, Kenilworth 303 (19144)
1963. Rial, William Y., 111 Dartmouth Ave., Swarthmore, Pa.
1936. Ritter, Joseph A., 1034 Bryn Mawr Ave., Narbeth, Pa.
1952. Robbins, Robert, 3401 N. Broad St. (40)
1954. *Roberts, Brooke, 3400 Spruce St. (4)
1957. Roberts, Joan Mary, 4 W. Mt. Pleasant Ave. (19)
1968. Roberts, John M., 5555 Wissahickon Ave. (19144)
1964. Robinson, James H., 5900 Spruce St. (19139)
1969. Robinson, Nathaniel M., 5229 Spruce St. (19139)
1969. Rodgers, Robert A., Jr., Westwood Med. Center, King's Hwy. & Westwood Dr., Woodbury, N.J. (08096)
1960. Roeders, Paul H., 330 S. 9th St. (7)
1969. Roediger, Paul M., 1245 Highland Ave., Abington, Pa. (19001)
1955. *Rogers, Fred B., 3401 N. Broad St. (40)
1951. *Ronis, Bernard J., 2106 Spruce St. (3)
1969. Rosato, Francis E., 3400 Spruce St. (19104)
1948. Roscoe, Constantine R., 7226 Castor Ave. (24)
1928. Rose, Edward, 426 Owen Rd., Wynnewood, Pa.
1936. Rose, Elizabeth Kirk, 426 Owen Rd., Wynnewood, Pa.
1959. Rose, Isadore, 6000 W. Oxford St. (19151)
1965. Rosenberg, Hyman, 1555 Haddon Ave., Camden, N. J.
1966. Rosenberg, Morton, 8823 Patton Rd. (19118)
1946. *Rosemond, George Parrott, 3401 N. Broad St. (40)
1960. Rosenow, Edward C., Jr., American College of Physicians, 4200 Pine St. (4)
1948. Rothman, Maurice M., Kennedy House, Apt. 2504, 19th & J. F. Kennedy Blvd. (19103)
1951. Rouse, George P., Jr., 2031 Locust St. (19103)
1966. Rovner, Harold, 1427 Spruce St. (19102)
1969. Rowland, Lewis P., G50 Administration Bldg., 3400 Spruce St. (19104)
1952. Roxby, Bruce S., 5501 Greene St. (44)
1955. Roxby, John B., Jr., 4821 Germantown Ave. (44)
1949. Royster, Henry P., 3400 Spruce St. (4)
1959. Rubin, Alan, 1905 Spruce St. (19103)
1952. Rubin, I. Edward, 255 S. 17th St. (3)
1966. Rugart, Karl F., 811 Spruce St. (19107)
1946. Rupp, Charles, 133 S. 36th St. (4)
1947. Rush, Alexander, 330 S. 9th St. (7)
1963. Rutter, William A., 425 Wister Rd., Wynnewood, Pa.
1963. Ryan, James J., Suite 2, 7516 City Line Ave. (19151)
1945. Rynes, Samuel E., 334 S. 21st St. (3)
1965. Sachs, Marvin L., 133 S. 36th St. (19104)
1952. Sain, Fletcher D., 1245 Highland Ave., Abington, Pa. (19001)
1952. Salner, Nathan P., 6812 Castor Ave. (24)
1952. Saltzman, Maurice, 2037 Spruce St. (3)

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1966. Samitz, M. H., 1715 Pine St. (19103)
1944. Sampson, David Alan, 726 Braeburn Lane, Penn Valley, Narbeth, Pa.
1964. Santangelo, Samuel C., 1941 Woodland Road, Abington, Pa.
1968. Sarin, Lov K., Lankenau Med. Bldg. (19151)
1950. Sarner, Joseph B., 289 Locust St. (19106)
1967. Sattilaro, Anthony J., Methodist Hospital (19148)
1954. Savacool, J. Woodrow, 146 W. Tulpehocken St. (44)
1947. Sayen, John J., 3600 Spruce St. (4)
1948. Scarano, Joseph Albert, 1432 S. Broad St. (19146)
1969. Schaedler, Russell W., Jefferson Med. College (19107)
1917. *Schaeffer, J. Parsons, 4634 Spruce St. (19139)
1942. *Scheie, Harold G., 3400 Spruce St. (19104)
1929. Schenck, Harry P., 1235 Wyngate Rd., Wynnewood, Pa. (19096)
1966. Schless, Guy L., 330 South Ninth St. (19107)
1945. Schlezinger, Nathan S., 255 S. 17th St. (3)
1961. Schlosser, Woodrow D., 3701 N. Broad St. (40)
1917. Schnabel, Truman G., 509 Williams Road, Wynnewood, Pa. (19096)
1958. Schnabel, Truman G., Jr., Phila. General Hospital (19104)
1957. Schnall, Nathan, 2037 Pine St. (3)
1962. Schneider, Henry C., 4801 Penn St. (24)
1966. Schoenberg, Harry W., 3400 Spruce St. (19104)
1970. Schott, Clifford E., Jr., Misericordia Hosp. (19143)
1968. Schotz, Seymour, 51 N. 39th St. (19104)
1955. Schreader, Charles J., 8906 Atlantic Ave., Margate City, N.J. (08402)
1952. Schulz, Norbert J., 1901 Walnut St. (3)
1950. Schumann, Francis, 8811 Germantown Ave. (18)
1948. Schwarz, Gabriel A., 133 S. 36th St. (4)
1962. Schwarz, Henry P., Philadelphia General Hospital (4)
1955. Schwegman, Cletus W., Hospital of the University of Penna. (4)
1966. Scott, J. Clifford, 826 Maple Ave., Berwyn, Pa.
1930. Scott, John Porter, Children's Hospital, 1740 Bainbridge St. (46)
1950. Scott, Michael, 3401 N. Broad St. (40)
1940. Scott, T. F. McNair, Children's Hospital, 1740 Bainbridge St. (46)
1952. Seifer, Arthur F., 710 South Main St., Phoenixville, Pa.
1958. Sellers, Alfred M., Hosp. of the Univ. of Pa. (4)
1952. Semisch, Charles W., III, 1344 Gilbert Rd., Meadowbrook, Pa.
1968. Senior, John R., PGH, 34th and Curie Ave. (19104)
1969. Sewell, Edward M., Children's Hosp. (19146)
1967. Seyler, Raymond Q., 1600 Arch St. (19101)
1966. Shaffer, Horace M., 208 W. State St., Trenton, N. J. (08608)
1960. *Shannon, Gerard M., 8118 Bustleton Ave. (15)
1963. Sharples, Wynne, 454 S. Ithan Ave., Villanova, Pa. (19085)
1928. Sharpless, Frederick C., 621 Railroad Ave., Haverford, Pa.
1956. Shaw, Danel L., Jr., 702 Knox Rd., Villanova, Pa.
1963. *Shearburn, Edwin W., 306 Lankenau Medical Bldg. (19151)
1955. Schechter, Fred R., 2461 No. 54th St. (31)
1954. Shelley, Walter B., 36th & Spruce Sts. (4)
1955. Shenkin, Henry A., Episcopal Hospital (25)
1946. Shepherd, Samuel Garfield, 1900 Spruce St. (19103)
1968. Sherk, Henry H., 330 S. Ninth St. (19107)
1968. Sherry, Sol, Temple Univ. Health Center (19140)
1956. Sherson, Jacob S., 405 Meadow Lane, Merion Station, Pa. (19066)
1958. Shipps, Hammell P., 21 E. Euclid Ave., Haddonfield, N.J. (08033)
1957. Shope, Edward Pierce Lentz, 807 Wilson Bldg., Camden, N.J.
1946. Shoup, George Daniel, 121 W. Walnut Lane (44)
1955. *Shubin, Harry, 6601 N. 21st St. (38)
1952. Shuman, Charles R., 3401 N. Broad St. (40)

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1949. Sidlick, David M., Park Towne Place E., 2200 Benj. Franklin Pkwy. (19130)
1969. Silberberg, Donald H., Univ. of Pa. Hosp. (10104)
1941. *Silcox, Louis E., Lankenau Medical Bldg. (19151)
1956. *Sillars, Charles H., Abington Memorial Hospital, Abington, Pa.
1968. Silverio, John, Wyeth Labs., P. O. Box 8299 (19101)
1963. Silverman, Daniel, 408 Waring Rd. (19117)
1955. Silverstein, Alexander, 2114 Pine St. (3)
1967. Simenhoff, Michael L., 1205 Walnut St. (19107)
1961. Simmons, Vaughan P., The Fidelity Mutual Life Insurance Co. (1)
1954. Singmaster, Lawrence, 272 Cheswold Lane, Haverford, Pa.
1952. Skromak, Stanley J., 5108 Torresdale Ave. (24)
1969. Skversky, Norman J., 6810 Castor Ave. (19149)
1968. Slate, William G., Albert Einstein Med. Center (N), York and Tabor Rds. (19141)
1967. Sloane, Norman G., 255 S. 17th St. (19103)
1929. Smith, Austin T., 330 S. 9th St. (7)
1964. Smith, Edgar C., 7100 Marshall Road, Upper Darby, Pa.
1955. Smith, J. Winslow, 3034 Darby Rd., Ardmore, Pa.
1967. Smith, Kaighn, Lankenau Medical Bldg. (19151)
1933. Smith, Lauren Howe, 111 N. 49th St. (39)
1952. Smith, Richard T., 330 S. 49th St. (7)
1967. Smith, Robert R., William H. Rorer, Inc., 500 Virginia Drive, Fort Washington, Pa. (19034)
1964. Smyth, Murray G., Jr., 1710 Delancey Place (19103)
1968. Snagg, William T., Cooper Hospital, Camden, N. J. (08103)
1951. Snape, William J., Cooper Hosp., Medical Arts Bldg., 5th Floor, 300 Stevens St., Camden, N. J. (08103)
1966. Snow, Laurence H., 3300 Henry Ave. (19129)
1958. Sodeman, William A., 1030 E. Lancaster Ave., Rosemont, Pa. (19010)
1961. Soffe, Alvin M., 1930 Chestnut St. (3)
1935. Sokoloff, Martin J., 255 S. 17th St. (3)
1964. Soll, David B., 5001 Frankford Ave. (19124)
1940. Soloff, Louis A., 3401 N. Broad St. (40)
1950. Somerville, William J., 37 S. 20th St. (3)
1944. Sommer, George N. J., Jr., 120 W. State St., Trenton, N. J.
1952. Sones, Maurice, Mt. Airy Medical Bldg. (19)
1951. Sonneborn, Duane G., 1200 W. Erie Ave. (24)
1928. *Spaeth, Edmund B., 1930 Chestnut St. (3)
1966. Spaeth, George L., 1601 Spring Garden St. (19130)
1958. Spaeth, Philip G., 1930 Chestnut St. (3)
1937. Spangler, John Luther, Devon, Pa.
1957. Spelman, Joseph Worcester, Dept. of Public Health, 13th & Wood Sts. (7)
1935. Spiegel, Ernest A., 6807 Lawnton Ave. (26)
1961. *Spiegelman, Jay, Benson East Apt., Jenkintown, Pa.
1955. Spitz, Eugene B., 40–50 W. Front St., Media, Pa.
1958. Splendido, Joseph A., 608 W. Cliveden (19)
1961. Stahlgren, LeRoy H., Episcopal Hospital, Front & Lehigh Ave. (19125)
1960. Stainback, William C., Bryn Mawr Medical Bldg., Bryn Mawr, Pa.
1957. Stanley, Robert C. G., 2315 Edgemont Rd., Chester, Pa.
1968. Stapinski, Stanley M., 80 W. Main St., Glen Lyon, Pa. (18617)
1927. Starr, Isaac, 505 Cresheim Valley Rd. (18)
1952. Stauffer, Herbert M., 3401 N. Broad St. (40)
1952. Stayman, Joseph W., Jr., 8815 Germantown Ave. (18)
1945. Stecher, H. Armin, 1510 Darby Rd., Havertown, Pa.
1955. Steel, Howard H., 238 W. Allens Lane (19119)
1952. *Steiger, William A., 3401 N. Broad St. (40)
1964. Stein, Donald B., Jr., 3000 Robin Lane, Havertown, Pa. (19083)
1946. Stein, Irvin, 1936 Spruce St. (3)

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* S. Weir Mitchell Associate

1966. Stein, Joseph M., 414 Cooper St., Camden, N. J. (08102)
1953. Stein, Raymond O., 269 S. 19th St. (3)
1966. Stein, Samuel C., 1930 Chestnut St. (19103)
1936. Steinfield, Edward, 2200 Benjamin Franklin Parkway (30)
1968. Steinmetz, Charles G., III, 4606 Spruce St. (19139)
1951. Sterling, Julian A., 3505 S. Ocean Drive, Hollywood, Fla. (33020)
1948. Stevens, Lloyd W., 133 S. 36th St. (4)
1969. Stewart, W. Wayne, 1608 Walnut St. (19103)
1928. *Stokes, Joseph, Jr., Henry Phipps Institute, 4219 Chester Ave. (19104)
1943. Stokes, S. Emlen, 129 Chester Ave., Moorestown, N. J.
1967. Stool, Sylvan E., 1740 Bainbridge St. (19146)
1968. Storey, Patrick B., 1505 Race St. (19102)
1961. Strang, John E., Bryn Mawr Med. Bldg., Bryn Mawr, Pa. (19010)
1953. Strawbridge, Rendall R., Lankenau Medical Bldg. (19151)
1937. *Strumia, Max M., Penn Valley, Narbeth, Pa.
1960. *Strumia, Paul V., Bryn Mawr Hospital, Bryn Mawr, Pa.
1967. Stunkard, Albert J., Univ. of Pennsylvania (19104)
1951. *Sturgis, Katharine Boucot, 349 Wister Rd., Wynnewood, Pa. (19096)
1927. Sturgis, Samuel Booth, 349 Wister Rd., Wynnewood, Pa. (19096)
1966. Sullivan, Howard E., Jr., Bryn Mawr Medical Bldg., Bryn Mawr, Pa. (19010)
1930. Sunderman, F. William, 1833 Delancy Place (3)
1954. *Sussman, Marcel S., Wm. Penn House, 1919 Chestnut St. (19103)
1963. Sutliff, Frederick P., 3701 N. Broad St. (19140)
1965. Sutnick, Alton I., 2135 St. James Place (19103)
1965. Swartley, Robert N., 50 Bethlehem Pike (19118)
1968. Sweeney, Francis J., Jr., Jefferson Med. College (19107)
1952. Talbot, Timothy R., Jr., 204 Booth Lane, Haverford, Pa.
1963. Tassman, William S., 187 E. Evergreen Ave. (19118)
1946. Tauber, Robert, 2019 Walnut St. (3)
1952. Taylor, Ann Gray, 6364 Germantown Ave. (44)
1960. Taylor, Daniel B., 2241 Federal St. (46)
1965. Taylor, Richard C., 11th & Sansom Sts. (19107)
1969. Taylor, W. J. Russell, PGH, 34th and Curie Ave. (19104)
1956. Templeton, John Y., III, 1025 Walnut St. (19107)
1966. Teplick, Joseph G., 1351 W. Tabor Road (19141)
1966. Terry, Luther L., 121 College Hall, Univ. of Pennsylvania (19104)
1951. Theodos, Peter A., 1930 Chestnut St. (3)
1961. Therman, Per-Olof, 111 N. 49th St. (39)
1959. Thomas, Arthur H., 5240 Vine St. (39)
1946. Thomas, Carmen C., 1930 Chestnut St. (3)
1964. Thomas, John W., 5900 Spruce St. (19139)
1970. Thompkins, Leonard J., Miscericordia Hosp. (19143)
1952. Thompson, Charles M., 255 S. 17th St. (3)
1927. Thorington, J. Monroe, Cambridge Apts., Wissahickon Ave. & School House Lane (44)
1967. Thorwarth, William T., 8835 Germantown Ave. (19118)
1954. Tindall, Dorothy D., 1930 Rittenhouse Sq. (3)
1966. Toland, Joseph J., N.E. Med. Center, Roosevelt Blvd. & Welsh Rd. (19114)
1935. Toland, Owen J., 336 Aubrey Rd., Wynnewood, Pa.
1952. *Tondreau, Roderick L., 523 Old Gulph Rd., Bryn Mawr, Pa.
1949. Tornay, Anthony S., 2038 Locust St. (3)
1966. Torrance, Edward G., 678 Burmont Rd., Drexel Hill, Pa.
1968. Tourtelllotte, Charles D., 3400 N. Broad St. (19140)
1936. Towson, Charles Emory, 224 W. Washington Lane (44)
1955. Trimpi, Howard D., 501 N. 17th St., Allentown, Pa.
1954. Trommer, Philip R., 258 S. 18th St. (3)
1956. Troncelliti, Mario V., Pennsylvania Hospital (7)
1953. Tropea, Frank, Jr., 500 Mulberry Lane, Haverford, Pa.

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1947. Trueman, Robert H., 2101 Chestnut St. (3)
1954. Truitt, R. Marshall, Jr., 6400 Wissahickon Ave. (19119)
1965. Tsaltas, Theodore T., 1025 Walnut St. (19107)
1966. Tucker, Gabriel F., Jr., 3401 N. Broad St. (19140)
1959. Tuddenham, William J., Pennsylvania Hospital (7)
1938. Tuft, Louis, 1530 Locust St. (2)
1964. Tulsky, Emanuel G., Abington Memorial Hospital, Abington, Pa. (19001)
1933. *Tumen, Henry J., 1830 Rittenhouse Square (3)
1938. Turman, Christopher M., 1245 Highland Ave., Abington, Pa. (19001)
1954. Turner, Linton W., 16 Bay Rd., Ocean City, N.J. (08226)
1959. Tyson, R. Robert, 3401 N. Broad St. (40)
1937. *Uhle, Charles A. W., Lankenau Medical Bldg. (19151)
1953. Ulin, Alexander W., 230 N. Broad St. (2)
1960. Urcchio, Joseph F., 245 N. Broad St. (7)
1950. Valdes-Dapena, Antonio, 214 Plush Mill Rd., Wallingford, Pa.
1958. Van den Noort, Gordon, 958 County Line Rd., Bryn Mawr, Pa. (19010)
1937. *Vander Veer, Joseph B., 330 S. 9th St. (7)
1937. Van Loon, Emily Lois, 255 S. 17th St. (3)
1960. Van Meter, Ralph H., 244 W. Main St., Moorestown, N.J.
1933. *Vastine, Jacob H., 2nd, 267 Kent Rd., Wynnewood, Pa.
1967. Vaughan, Victor C., III, 2600 N. Lawrence St. (19133)
1963. Vaughan, Arthur R., Jr., 5329 Rising Sun Ave. (19120)
1958. Velkoff, Cyril L., 2100 Walnut St. (3)
1965. Viggiano, Louis X., 528 Brandymede Place, Rosemont, Pa. (19010)
1952. Vischer, Thomas J., 5903 Green St. (44)
1940. Voegelin, Adrian W., Suite 108, 5735 Ridge Ave. (19128)
1960. Wagenheim, Harry H., 1822 Spruce St. (3)
1949. Wagner, Frederick B., Jr., 800 Chauncey Road, Narbeth, Pa.
1949. Wagner, Joseph A., 201 Highland Ave., Bryn Mawr, Pa.
1938. Waldman, Joseph, 404 Meadowbrook Lane (18)
1955. Waldron, Jerome M., Evergreen Towers, 8900 Roosevelt Blvd. (19115)
1967. Waltzer, Frederick N., York & Keith Rds., Abington, Pa. (19001)
1956. Watkins, E. Lloyd, 8811 Germantown Ave. (18)
1969. Waugh, Bascom S., 1882 S. 10th St., Camden, N.J. (08104)
1967. Wear, Roland F., Jr., Campbell Soup Co., 375 Memorial Ave. Camden, N. J. (08101)
1952. Weaver, Harry S., Jr., Room 405, 1930 Chestnut St. (19103)
1969. Wfibel, Robert E., 1001 Pennsylvania Ave., Havertown Pa. (19083)
1952. Weinstein, George L., 255 S. 17th St. (3)
1950. Weiss, Sidney, 2037 Locust St. (3)
1965. Weiss, William, Philadelphia General Hospital, 34th & Curie Ave. (19104)
1959. Wellenbach, Burton L., 1930 Chestnut St. (19108)
1967. Weller, Russell W., Chester City Hosp., W. Chester, Pa. (19380)
1951. *Welty, John W., Montgomery Ave. & Owen Rd., Wynnewood, Pa.
1955. Wendkos, Martin H., Black Hawk Apts. L-16, Lancaster Ave., Dowington, Pa. (19335)
1962. Wentz, Clarkson, 20 S. Valley Road, Paoli, Pa.
1961. Wermuth, William C., 414 Minden Way, Wynnewood, Pa. (19096)
1959. West, Clifton F., Jr., 406 Lankenau Medical Bldg. (19151)
1960. Whiteley, William H., 1015 Chestnut St. (7)
1969. Whitman, Mark A., 100 W. Coulter St. (19144)
1925. Widmann, Bernard P., 250 S. 18th St. (3)
1954. Wieder, Henry S., Jr., 829 Spruce St. (19107)
1939. *Willauer, George, 6129 Greene St. (44)
1969. Williams, James R., 500 Woodland Ave. (19143)
1937. *Williams, John C., 6370 Germantown Ave. (44)
1965. Williams, Kirkley R., Bryn Mawr Bldg., Bryn Mawr, Pa. (19010)
1968. Williams, Norman, Jefferson Med. College (19107)
1950. Williams, R. G., Univ. of Pa. School of Medicine (4)

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1927. Williamson, Ernest G., 6353 Woodbine Ave. (19151)
1945. Wilson, John F., 2013 Delancey Place (19103)
1949. Wilson, William W., 133 S. 36th St. (4)
1957. Winkleman, N. William, Jr., 4141 Apalogen Rd. (44)
1963. Winston, Joseph M., Jeanes Hospital (11)
1966. Wise, John S., 433 Bellevue Ave., Trenton, N. J. (08618)
1961. Wise, Robert I., 1025 Walnut St. (7)
1968. Witkowski, Joseph A., 3501 Ryan Ave. (19136)
1953. Wohl, George T., Lankenau Hosp. (19151)
1933. Wohl, Michael G., 1727 Pine St. (3)
1958. Woldow, Irving, Einstein Med. Center, York & Tabor Rds. (19141)
1958. Wolf, John H., 124 Walnut Lane (44)
1944. Wolf, Lewis R., 3474 Frankford Ave. (34)
1962. Wolferth, Charles C., Jr., The Windsor, Suite 2307, 1700 Benj. Franklin Pkwy. (19103)
1964. Wolfson, Robert J., 3701 N. Broad St. (10140)
1964. *Wolgin, William, 1512 Spruce St. (19102)
1957. Wolkowicz, Michael I., 2022 Spruce St. (3)
1942. Wolman, Irving J., 7607 Woodlawn Ave. (26)
1966. Wood, Alfred C., Jr., 6386 Church Rd. (19151)
1932. *Wood, Francis C., 3400 Spruce St. (19104)
1944. Wood, H. Curtis, Jr., 7010 Lafayette Ave., Fort Washington, Pa.
1966. Wood, Margaret G., 3400 Spruce St. (19104)
1953. *Woodruff, Marston T., 4940 Penn St. (24)
1969. Wouters, Freerk W., Suite 713, 1530 Chestnut St. (19102)
1960. Wurzel, Harold A., 3400 Spruce St. (4)
1969. Yanoff, Myron, 3400 Spruce St. (19104)
1964. Young, Alma L., 3343 W. Penn St. (12129)
1966. Young, Irving, Albert Einstein Medical Center, N.D. (19141)
1967. Zakreski, Matthew J., 8815 Germantown Ave. (19118)
1961. Zanni, Anthony L., 111 N. 49th St. (39)
1957. Zaslow, Jerry, 6735 Harbison Ave. (19149)
1955. Zatuchini, Jacob, 3401 N. Broad St. (40)
1946. Zeigerman, Joseph H., 2105 Spruce St. (3)
1970. Zimmermann, Albert W., Jr., 635 Germantown Pike, Norristown, Pa. (19401)
1968. Zimskind, Paul D., Jefferson Med. College (19107)
1949. Zintl, William J., 1016 Warrior Rd., Drexel Hill, Pa. (19026)
1956. Ziserman, Abraham J., 2046 Pine St. (3)
1962. Zubrow, Sidney N., 829 Spruce St. (10107)
1933. Zulick, J. Donald, 307 Fisher Rd., Jenkintown, Pa. (19046)
1965. Zweiman, Burton, Univ. of Pa. Hospital (19104)

Non-Resident Fellows

ELECTED

1936. Alexander, Fay K., Lincolnville, Maine
1953. Allman, David B., 4105 Brigantine Blvd., Brigantine, N.J. (08203)
1941. Aronson, Roland S., 9401 Byeforde Road, Kensington, Md. (20795)
1954. Austin, George M., Loma Linda Univ. Med. Sch. Hosp., Loma Linda, Calif. (92354)
1942. Bachman, Carl, 1337 Andrea Ave., St. Helena, Cal. (93574)
1960. Bacon, Catherine L., 88 Gardiner Rd., Woods Hole, Mass (02543)
1958. Ballinger, Walter F., II, Washington Univ. Sch. of Med., 4960 Audubon Ave., St. Louis, Mo. (63110)
1966. Baue, Arthur E., The Jewish Hosp. of St. Louis, 216 S. Kingshighway, St. Louis, Mo. (63110)

* S. Weir Mitchell Associate

1955. Beckfield, William J., Luther Hospital, 310 Chestnut St., Eau Claire, Wisconsin
1949. *Beecham, Clayton T., Geisinger Medical Center, Danville, Pa.
1932. Behney, Sr., Charles A., P. O. Box 4256, San Jose Branch, Bisbee, Arizona (85603)
1968. Benenson, Abraham S., Univ. of Kentucky College of Med., Lexington, Ky. (40506)
1955. Blank, Harvey, Jackson Memorial Hospital, Miami 36, Fla.
1921. Borzell, Francis F., R. D. 4, Box 4310, Brown Mills, N.J. (08015)
1937. Braceland, Francis J., The Institute of Living, 200 Retreat Ave., Hartford, Conn.
1936. Brown, Clark E., S. Pamet Rd., Truro, Mass. (02666)
1948. Brown, Robert B., Box 62, Kill Devil Hills, N.C. (27948)
1959. Browneller, Ellsworth R., Geisinger Medical Center, Danville, Pa.
1953. Bucher, Robert M., NIH, Bethesda, Md. (20014)
1953. Burbridge, J. Raymond, 163 Nassau St., Princeton, N.J.
1952. Bumgardner, Heath D., 13 S. Main St., Cape May Court House, N.J.
1931. Cantarow, Abraham, Bldg. 31, Rm. 10A-49, Nat'l. Cancer Institute, NIH, Bethesda, Md. (20014)
1948. Chapman, John P., Calle Fray Junipero Serra 26, Palma de Mallorca, Balearic Islands, Spain.
1950. Chapple, Charles C., 8517 Indian Hills Drive, Omaha, Neb. (68114)
1941. Cheleden, John, 1012 Volusia Ave., Daytona Beach, Fla.
1930. Clarke, Francis Mann, 116 New St., New Brunswick, N.J.
1926. Clerf, Louis H., 5575-8th Ave., North St. Petersburg, Fla.
1964. Cohen, Sheldon G., 309 S. Franklin St., Wilkes-Barre, Pa.
1969. Collins, James A., Geisinger Med. Center, Danville, Pa. (17821)
1959. Cowan, John S., AMA Med. Educational Project, APO San Francisco (96243)
1960. Cowley, Allen W., Sr., 1919 N. Front St., Harrisburg, Pa.
1937. Crane, Martin P., 310 E. 16th St., Ocean City, N.J. (08226)
1941. Cuttle, Tracy D., % Dr. George N. Hosford, 1080 Chestnut St., San Francisco, Calif. (94109)
1959. Dannenberg, Arthur M., Jr., Johns Hopkins School of Hygiene, 615 N. Wolfe St., Baltimore, Md. (21205)
1937. Davis, Perk Lee, R. D. 5, Turkey Hollow Farm, Waynesburg, Pa. (15370)
1954. Deitrick, John E., 69 Rockledge Rd., Bronxville, N.Y. (10708)
1965. Delaney, William E., III, St. Vincent's Hosp., 170 W. 12th St., N.Y.C. (10011)
1968. Denton, Robert, Beth Israel Hosp., 330 Brookline Ave., Boston, Mass. (02215)
1941. Dixon, Harold M., R.D. #3, Cool Springs Rd., Indiana, Pa. (15701)
1961. Duane, Thomas D., 35 E. Elizabeth Ave., Bethlehem, Pa.
1959. Durgin, Bernice Elise, 221 N. Allegheny St., Bellefont, Pa.
1947. Durkin, Joh K., V.A. Hospital, Coatesville, Pa. (19320)
1955. Edwards, Margaret Hay, 800 4th St., S.W., Washington, D.C. (20024)
1953. Eisenberg, Isadore J., 2806 Green St., Harrisburg, Pa.
1951. Ellis, Mackinnon, Kelkinny, RFD #4, Jonesboro, Tenn (37659)
1957.**Errion, Arthur Robbins, U. S. Naval Hospital, FPO Seattle (98765)
1951. Ervin, Carl E., 240 North Third Street, Harrisburg, Pa.
1944. Estes, W. L., Jr., 35 E. Elizabeth Ave., Bethlehem, Pa.
1952. Faller, Constantine P., 127 State St., Harrisburg, Pa.
1952. Flinn, Lewis B., 1306 Broom St., Wilmington, Del. (19806)
1940. Forrester, James S., Harrisburg Polyclinic Hospital, Harrisburg, Pa.
1968. Frankl, William S., 330 Merriweather Dr., Longmeadow, Mass. (01106)
1940. Fry, Kenneth E., Clinton Court Apts., Walla Walla, Washington (99362)
1947. Gaskill, Herbert S., 4800 Hale Parkway, Denver, Colo. (80220)
1931. Gilman, Robert Louis, Cheyney, Pa.
1968. Glenney, Wilton R., 218 W. Market St., Pottsville, Pa. (17901)
1954. Godfrey, Ellwood W., Princeton Hospital, Princeton, N.J.
1928. Gordon, Burgess L., 1550 Lake Shore Dr., Chicago, Illinois
1952. Grieco, Reynold M., 2 W. 4th St., Williamsport, Pa.
1934. Griffith, John Q., Jr., 6 North Fredericksburg Ave., Margate, N.J.

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* S. Weir Mitchell Associate
** Military Service

1952. Gross, Elmer R., Medical Arts Bldg., Wilmington, Del.
1933. Gruber, Charles M., 1313 College Ave., Redlands, Calif.
1951. Hafkenschiel, Joseph H., Jr., 380 Golden Oak Drive, Portola Valley, Calif. (94025)
1935. Haines, Harlan F., 231 N. Pine St., Seaford, Del.
1939. Hamblock, Leonard C., Box 185, Rd. #2, North East, Md. (20901)
1959. Hampton, Louis J., 300 Highland Ave., Hanover, Pa. (17331)
1969. Hanson, Stephen M., Coatesville Hosp., Coates, Pa. (19320)
1969. Harrell, George T., Jr., 500 University Dr., Hershey, Pa. (17033)
1966. Harrington, Edwin D., 720 Stanwick Rd., Moorestown, N.J. (18057)
1955. Harris, John H., 1301-A N, Second St., Harrisburg, Pa.
1965. Harris, John H., Jr., Carlisle Hospital, Carlisle, Pa. (17013)
1936. Hatch, Lerleen Clement, 7546 E. Mariposa Dr., Scottsdale, Ariz. (85251)
1928. Hayman, Joseph M., Jr., 3504 E. Scarborough Rd., Cleveland Hts., Ohio (44118)
1964. Heath, Robert D., The Geisinger Med. Center, Danville, Pa. (17821)
1946. Hendrickson, Frank O., Jupiter, Fla.
1955. Hills, Arthur G., 1000 N. W. 17th St., Miami, Fla. (36)
1933. Hitzrot, Lewis H., 161 Patton Ave., Princeton, N.J. (08540)
1910. Horn, Robert C., Henry Ford Hospital, Detroit, Mich.
1953. Imber, Irving, 428 Walnut St., Reading, Pa.
1958. Impink, Robert R., 405 Oley St., Reading, Pa.
1935. Ingleby, Helen, The Church House, Heacham, King's Lynn, England
1921. •Ivy, Robert H., 104 Dalton Rd., Paoli, Pa.
1960. Jenson, William K., Joslin Clinic, 15 Joslin Rd., Boston, Mass. (02215)
1952. Jonas, Karl C., 916 19th St., N.W., Washington, D.C. (20006)
1955. Jordan, Claus G., 175 E. Brown St., E. Stroudsburg, Pa.
1936. Kain, Thomas M., 30 Northeast 97th St., Miami, Fla.
1957. Kane, Sydney H., 88 Valley Rd., Berkeley Hts., N.J. (07922)
1956. Keffer, William H., 413 Oley St., Reading, Pa.
1947. Kelchner, Clyde H., 1125 Turner St., Allentown, Pa.
1965. Kennedy, Charles, 5115 Allan Terrace, Bethesda, Md. (20016)
1969. Kitchen, James G., II, The Mohican, Pocono Lake, Pa. (18347)
1954. LaMotte, William O., Jr., 1303 Delaware Ave., Wilmington, Del. (19806)
1963. Lang, Leonard P., Memorial Div., Wilmington Med. Center, PO Box 1548, Wilmington, Del. (19899)
1936. Leaman, William G., Jr., P. O. Box 463, Unionville, Pa. (19375)
1943. Leopold, Irving H., The Mount Sinai Hospital, 100th St. & 5th Ave., New York, N.Y. (10029)
1952. Levan, John B., 401 Oley St., Reading, Pa.
1960. Lewis, David H., Hogenskildsgatan 13, S-416, 57 Goteborg, Sweden
1949. Lhamon, William T., The New York Hospital, 525 E. 68th St., New York, N.Y. (10021)
1954. Light, John J. B., 25 N. 9th St., Lebanon, Pa.
1954. Lindenmuth, Woodrow W., Yale-New Haven Hosp., PO Box 1001, New Haven, Conn. (06504)
1948. Livingood, Clarence S., Henry Ford Hospital, Detroit 2, Mich.
1932. •Lukens, Francis D. W., Veterans Administration Hospital, University Drive, Pittsburgh, Pa. (15240)
1965. McCarty, Daniel J., Jr., University of Chicago, Chicago, Ill. (60637)
1962. McGregor, Robert A., 3516 N.W. 43 St., Oklahoma City, Okla. (73112)
1948. McLaughlin, John T., 655 N. Central Ave., Glendale, Calif.
1967. Magee, Joseph H., Box 294, Cold Spring Harbor, N.Y. (11728)
1942. Manges, Lewis C., Jr., R. D. 2, Windsor, N.Y. (13865)
1959. Maniglia, Rosario, Holy Spirit Hospital, Camp Hill, Pa.
1953. Margolies, Michael, 567 E. Chestnut St., Coatesville, Pa.
1955. Margolies, M. Price, 379 E. Chestnut St., Coatesville, Pa.
1935. Mason, James B., 1730 S. Jackson St., Tacoma, Washington
1939. May, Hans, P.O. Box 1477, Christiansted, St. Croix, U.S. Virgin Is. (00820)

• S. Weir Mitchell Associate

1932. Meade, Richard H., Jr., 750 San Jose Dr., Grand Rapids, Mich.
1936. Middleton, William Shainline, 2114 Adams St., Madison, Wisc.
1946. Miller, Franklin R., Snyder-Jones Clinic, First Nat. Bk. Bldg., Winfield, Kansas
1949. Motley, Hurley L., 1212 Shatto St., Los Angeles, Calif.
1958. Nealon, Thomas F., Jr., St. Vincent's Hosp. & Med. Center, 170 W. 12th St., N.Y., N.Y. (10011)
1960. Ojers, Gaylord W., 35 E. Elizabeth Ave., Bethlehem, Pa.
1956. Oppenheimer, Albert, 224 E. Main St., Moorestown, N.J.
1926. Paul, John Rodman, 333 Cedar St., New Haven, Conn.
1959. Pendergras, Henry P., Massachusetts General Hospital, Boston, Mass.
1950. Pincus, Irwin J., 610 N. Roxbury Drive, Beverly Hills, Calif.
1958. Rachlin, Lillian, 370 Golden Oak Drive, Portola Valley, Calif. (94026)
1966. Rahn, Elsa Kertesz, 363 Hempstead Ave., Rockville Center N.Y. (11570)
1938. Read, Hilton S., 5407 Atlantic Ave., Atlantic City, N.J.
1964. Reed, Miriam, 253 Witherspoon St., Princeton, N.J.
1958. Reinhardt, David J., III, 400 Bay Ave., Lewes, Del. (19958)
1936. Reisinger, John A., 1835 Eye St., N.W., Washington, D.C.
1955. Rettew, Philip L., 612 Museum Rd., Reading, Pa.
1951. Richardson, Fred MacD., South Side, Route 23, Claverack, N.Y. (12513)
1961. Richardson, Herschell E., 205 Mayerline St., Houston, Texas
1947. Rogers, Arthur Merriam, 1351 Durwood Drive, Charlotte, N.C.
1965. Rowe, Daniel S., 20 Horseshoe Lane, Madison, Conn. (06443)
1941. Royster, Hubert A., Jr., Watts Hospital, Durham, N.C. (27705)
1954. Sampson, Martin C., Wallace Laboratories, Cranbury, N.J.
1936. Sands, Joseph Evans, 135 107th St., Stone Harbor, N.J.
1945. Schell, James F., 506 Sharpley Lane, Wilmington, Del.
1958. Schreck, Kenneth M., 1403 Dauphin Ave., Wyomissing, Pa. (19610)
1963. Schumacher, L. Richard, 60 E. Court St., Doylestown, Pa. (18901)
1921. Schumann, Edward A., 4141 Jackson Drive, Lafayette Hill, Pa.
1951. Seitchik, Joseph, Sinai Hospital of Baltimore, Baltimore, Md.
1941. Shands, Alfred R., Jr., Alfred I. duPont Institute, P.O. Box 269, Wilmington, Del. (19899)
1964. Sharpe, William D., Martland Hosp., 65 Bergen St., Newark, N.J.
1950. Shiffer, Paul H., Dreher Ave., Rd. 5, Box 5, Stroudsburg, Pa. (18360)
1964. Shimkin, Michael B., Dept. Community Med., Univ. of Calif. Med. Sch., La Jolla, Calif. (92037)
1951. Shorey, Winston K., 7117 Shamrock Drive, Little Rock, Arkansas
1933. Smelzer, Donald C., 207 E. Orange St., Lancaster, Pa.
1954. Smith, Charles W., 128 State St., Harrisburg, Pa.
1942. Stengel, Alfred, Jr., Maple Ave., Katonah, N.Y.
1955. Stevenson, Theodore D., 475 Riverside Drive, New York, N.Y. (10027)
1931. Stiles, Merritt H., E. 406 14th Ave., Spokane 3, Wash.
1953. Stroud, M. W., Shaker Blvd., Shagrin Falls, Ohio (44022)
1934. Summy, Thomas J., Morrowdale Farm, Rt. 2, Charlottesville, Pa.
1961. Sunderman, F. William, Jr., Univ. of Conn. Sch. of Med., 2 Holcomb St., Hartford, Conn. (06112)
1952. Sweeney, Francis X., Station A, Marlboro, N.J. (07746)
1931. Taylor, Norman H., Queen of the East, E. Broadway, Hamilton, Bermuda
1928. Thomas, J. Earl, Loma Linda University, Loma Linda, Calif.
1942. Thompson, Wesley D., 247 E. 3rd St., Lewistown, Pa.
1941. Tompkins, Pendleton, Suite 202, 101 S. San Mateo Dr., San Mateo, Calif. (94401)
1897. Veasey, Clarence A., 1118 W. 9th Ave., Spokane 9, Wash.
1941. Weaver, Ruth H., 108 Atlantic Ave., Atlantic City, N.J.
1957. Webster, Marie, 1623 Hyde St., San Francisco 9, California
1966. Wentzler, J. Donald, R.D. #2, Muncy, Pa. (17756)
1959. Whayne, Tom F., University of Kentucky Medical Center, Lexington, Ky.
1966. White, Richard K., 1702 Walnut St., Allentown, Pa. (18104)
1936. Wilder, Theodore S., Linden Lane, Sherborn, Mass.

1935. Willard, John H., Harlan Memorial Hospital, Harlan, Kentucky
1949. Willson, J. Robert, University of Michigan Medical Center, Ann Arbor, Michigan (48104)
1948. Winston, Julius, 1616 Pacific Ave., Atlantic City, N.J. (08400)
1963. Wood, Horatio C., IV, 2820 Vernon Place, Cincinnati, O. (45219)
1941. Young, Barton R., 2324 Bath St., Santa Barbara, Calif. (93103)
1953. Zarafonetis, Chris J. D., Simpson Memorial Institute, University of Michigan, Ann Arbor, Michigan

Honorary Fellows

Limited to fifty, of whom twenty may be foreigners.

American

ELECTED

1967. Bell, Whitfield J., Jr., ph.d., litt.(hon.), ll.d.(hon.), American Philosophical Society, Independence Square (19106)
1964. Corner, George Washington, m.d., sc.d.(hon.), ll.d.(hon.), litt.d.(hon.), 1810 Rittenhouse Square (3)
1959. Fay, Marion S., m.a., p.hd., s.cd.(hon.), ll.d.(hon.), Women's Medical College, Henry Ave. & Abbottsford Rd. (29)
1965. Gurin, Samuel, ph.d., sc.d.(hon.), University of Pennsylvania School of Medicine, 36th and Hamilton Walk (19104)
1958. *Shryrock, Richard H., ph.d., ll.d.(hon.), American Philosophical Society, Independence Square (6)

Foreign

1955. Mann, Ida, m.a., d.sc., m.b., b.s., l.r.c.p., d.o.m.s., f.r.c.s., Ophthalmic Consultant to the Government of W. Australia, 56 Hobs St., Nedlands, Perth, W. Australia.

Honorary Associate Fellows

1955. Diemand, John A., President, Insurance Company of North America, 1600 Arch St. (2)
1964. Pew, J. Howard, Grays Lane & Mill Creek Rd., Ardmore, Pa.
1967. Rosenwald, Lessing, J., 1146 Fox Chase Rd., Jenkintown, Pa. (19046)
1967. Wintersteen, Mrs. John, 1425 Mt. Pleasant Rd., Villanova, Pa. (19085)

Necrological List

Resident Fellows	*Date of Election*	*Date of Death*
Behrend, Moses	May 7, 1934	November 15, 1969
Cornell, Walter S.	June 7, 1911	March 21, 1969
Donnelly, Robert T. M.	October 6, 1937	September 28, 1969
Farr, Clifford B.	December 1903	February 24, 1970
Fox, C. Calvin	January 6, 1941	September 29, 1969
Gilmour, William R.	January 10, 1927	October 27, 1969
Hope, John W.	May 1, 1968	June 13, 1969

* S. Weir Mitchell Associate

Resident Fellows	*Date of Election*	*Date of Death*
Howland, Alvin W.	October 13, 1948	October 26, 1969
Kramer, David W.	January 7, 1948	May 13, 1969
Lamont, Austin	October 4, 1950	June 21, 1969
Lindsey, Walter H.	January 10, 1927	October 1, 1968
Lucine, Albert A.	February 3, 1960	October 9, 1969
MacFarlane, Catherine	January 11, 1932	May 27, 1969
Mapow, Abraham B.	December 6, 1961	May 4, 1969
Merves, Louis	October 3, 1956	May 28, 1969
Meyer, Eugene A.	March 2, 1955	August 7, 1969
Mitchell, John McK.	April 19, 1950	September 18, 1969
Parker, Alan P.	January 8, 1940	January 18, 1970
Pearson, Gerald H. J.	October 13, 1943	July 2, 1969
Post, Joseph W.	May 2, 1951	June 26, 1969
Sall, Manuel	October 1, 1958	December 17, 1969
Scheffey, Lewis C.	January 7, 1929	March 13, 1969
Simkins, Samuel	November 2, 1966	March 30, 1969
Snyder, G. Gordon	January 6, 1941	March 21, 1969
Weber, Lennard L.	October 7, 1953	February 25, 1969
Non-Resident Fellows	*Date of Election*	*Date of Death*
Brinton, Samuel J.	May 2, 1951	September 19, 1969
Evans, Harry D., Jr.	October 6, 1954	October 21, 1969
Williams, Philip F.	October 6, 1920	January 13, 1970

(Suggested Form of Bequest)

I hereby give, devise, and bequeath to The College of Physicians of Philadelphia, a charitable educational association organized under the laws of the Commonwealth of Pennsylvania and the executive offices whereof are located in the City of Philadelphia, the sum of . . . . . .

a. which sum shall be used for the general purposes of said association;

b. which sum shall be added to and become a part of the general endowment fund of said association;

c. which sum shall be used by said association preferably for the following purposes:

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